

# Service Manual

ORDER NO.  
**ARP3202**

PLASMA DISPLAY

# PDP-504PU

**THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).**

| Type   | Model     | Power Requirement | Remarks |
|--------|-----------|-------------------|---------|
|        | PDP-504PU |                   |         |
| TUCKXC | ○         | AC110 - 240V      |         |

● **This service manual should be used together with the following manual(s):**

| Model No.      | Order No. | Remarks                                                                                                           |
|----------------|-----------|-------------------------------------------------------------------------------------------------------------------|
| PDP-504PU/TUCK | ARP3176   | SAFETY INFORMATION, EXPLODED VIEWS AND PARTS LIST, BLOCK DIAGRAM, PCB PARTS LIST, ADJUSTMENT, IC INFORMATION etc. |
|                |           |                                                                                                                   |

# 1. CONTRAST OF MISCELLANEOUS PARTS

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● Screws adjacent to  $\nabla$  mark on product are used for disassembly.

● Reference Nos. indicate the pages and Nos. in the service manual for the base model.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560  $\rightarrow$   $56 \times 10^1 \rightarrow 561$  ..... RD1/4PU  $\boxed{5}\boxed{6}\boxed{1}J$

47k  $\rightarrow$   $47 \times 10^3 \rightarrow 473$  ..... RD1/4PU  $\boxed{4}\boxed{7}\boxed{3}J$

0.5  $\rightarrow$  R50 ..... RN2H  $\boxed{R}\boxed{5}\boxed{0}K$

1  $\rightarrow$  1R0 ..... RS1P  $\boxed{1}\boxed{R}\boxed{0}K$

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k  $\rightarrow$   $562 \times 10^1 \rightarrow 5621$  ..... RN1/4PC  $\boxed{5}\boxed{6}\boxed{2}\boxed{1}F$

## ■ CONTRAST TABLE

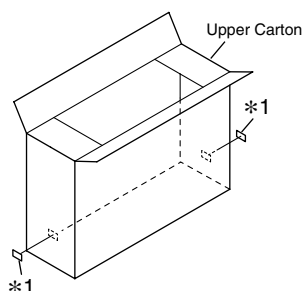
PDP-504PU/TUCKXC and PDP-504PU/TUCK are constructed the same except for the following :

| Ref. No. | Mark | Symbol and Description    | Part No.          |                     | Remarks |
|----------|------|---------------------------|-------------------|---------------------|---------|
|          |      |                           | PDP-504PU<br>TUCK | PDP-504PU<br>TUCKXC |         |
|          |      | <b>PACKING</b>            |                   |                     |         |
| P9 - 5   | NSP  | Code Case                 | AHC1041           | AHC1052             |         |
| P9 - 6   |      | Center Pad (50)           | AHA2335           | AHA2359             |         |
| P9 - 7   |      | Warranty Card             | ARY1138           | ARY1145             |         |
| P9 - 8   |      | Mirror Mat                | AHG1284           | Not used            |         |
| P9 - 8   |      | Packing Sheet             | Not used          | AHG1346             |         |
| P9 - 9   |      | Pad (PP T- L)             | AHA2315           | AHA2355             |         |
| P9 - 10  |      | Pad (PP T- R)             | AHG2316           | AHA2356             |         |
| P9 - 11  |      | Pad (PP B- L)             | AHA2343           | AHA2357             |         |
| P9 - 12  |      | Pad (PP B- R)             | AHG2344           | AHA2358             |         |
| P9 - 13  |      | Carton (50)               | AHD3177           | AHD3235             |         |
| P9 - 14  |      | Upper Carton (50PU)       | AHD3178           | AHD3236             |         |
| P9 - 15  |      | Vinyl Bag                 | AHG1310           | AHG1347             |         |
| P9 - 16  |      | Caution Card              | ARM1232           | ARM1239             |         |
| P9 - 18  |      | Vinyl Bag S               | AHG1338           | AHG1348             |         |
| P9 - 23  |      | Sub Carton (50)           | AHB1248           | AHB1252             |         |
|          |      | Mic Label (504PU CASE)    | AAX3047           | Not used            | *1      |
|          |      | <b>MULTI BASE SECTION</b> |                   |                     |         |
| P17 - 19 |      | Screw                     | ABA1294           | ABA1312             |         |
|          |      | <b>REAR SECTION</b>       |                   |                     |         |
| P19 - 3  | NSP  | Name Label (504PU)        | AAL2469           | Not used            |         |
| P19 - 3  | NSP  | Name Label (50PU)         | Not used          | AAL2536             |         |
| P19 - 4  |      | Caution Label             | AAX3007           | AAX3075             |         |
| P19 - 5  |      | Terminal Label (PU)       | AAX2997           | AAX3074             |         |
|          | NSP  | KOREA Label (504PU)       | AAX3104           | Not used            | *2      |

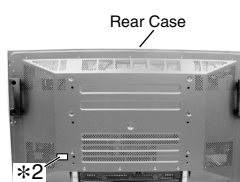
Note: The numbers in the remarks column correspond to the numbers on the "EXPLODED VIEWS".

## ■ EXPLODED VIEWS

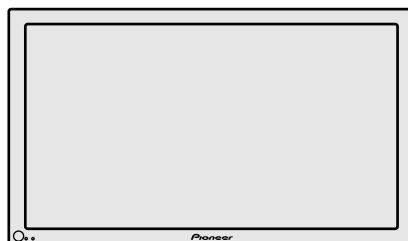
### • PACKING



### • REAR SECTION



# Service Manual



PDP-504PU

ORDER NO.  
**ARP3176**

PLASMA DISPLAY

# PDP-504PU

## PDP-504PE

## PRO-504PU

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model     | Type    | Power Requirement | Remarks |
|-----------|---------|-------------------|---------|
| PDP-504PU | TUCK    | AC110 - 240V      |         |
| PDP-504PE | WYVI6   | AC220 - 240V      |         |
| PDP-504PE | WYVI6XK | AC220 - 240V      |         |
| PRO-504PU | KUC     | AC120V            |         |

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |



For details, refer to "Important symbols for good services".

Confirm it

Serial No.

○ ○ **WYVI6** : ☐ ☐ **SS** ##### △△

○ ○ **WYVI6XK** : ☐ ☐ **UK** ##### △△

# SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

## NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

## REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

## SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

- When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
- When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
- When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
- Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
- Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
  - Perform the following precautions against unwanted radiation and rise in internal temperature.
    - Always return the internal wiring to the original styling.
    - Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
  - Perform the following precautions for the PDP panel.
    - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
    - Make sure that the panel vent does not break. (Check that the cover is attached.)
    - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
  - Pay attention to the following.
    - When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
    - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

### Leakage Current Cold Check

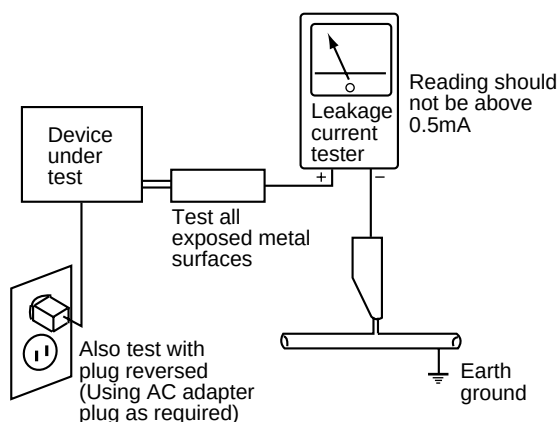
With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of  $0.3M\Omega$  and a maximum resistor reading of  $5M\Omega$ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

### Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.



AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.**

### PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  $\Delta$  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.

If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. AC Power Cord
2. AC Inlet with Filter
3. Power Switch (S1)
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

## ■ High Voltage Generating Point

The places where voltage is 100V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

1. SW POWER SUPPLY Unit..... (223V)
2. 50 X DRIVE Assy .....(-230V to 223V)
3. 50 Y DRIVE Assy .....(353V)
4. 50 SCAN (A) Assy .....(353V)
5. 50 SCAN (B) Assy .....(353V)
6. X CONNECTOR A Assy ..... (-230V to 223V)
7. X CONNECTOR B Assy ..... (-230V to 223V)

▨ : Part is Charged Section.

□ : Part is the High Voltage Generating Points other than the Charged Section.

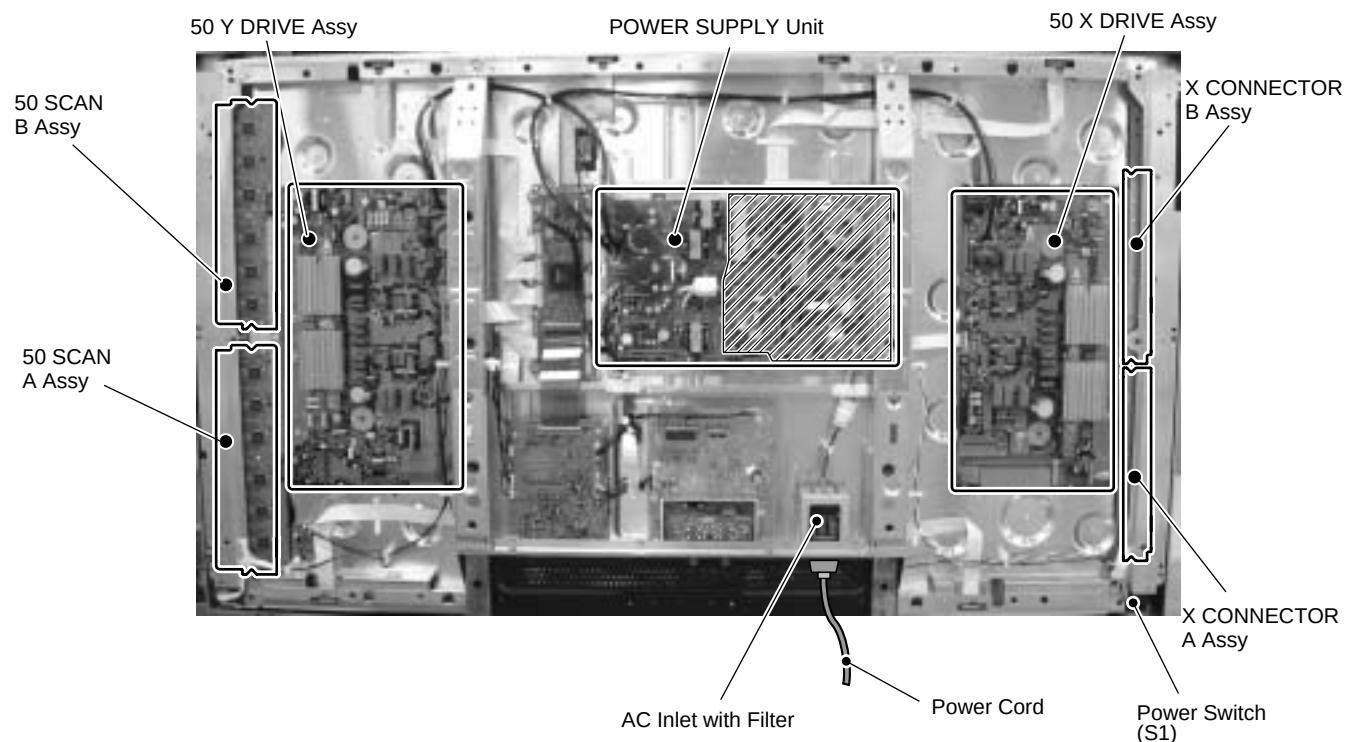


Fig.1 Charged Section and High Voltage Generating Point (Rear View)

**[ Important symbols for good services ]**

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

**1. Product safety**

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

**2. Adjustments**

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

**3. Cleaning**

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

**4. Shipping mode and shipping screws**

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

**5. Lubricants, glues, and replacement parts**

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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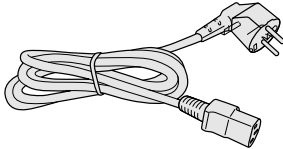
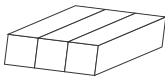
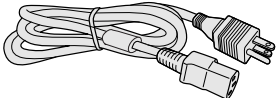
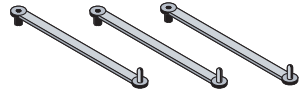
# 1. SPECIFICATIONS

## 50" Plasma Display

| Item              | Model: PDP-504PU                                                                            | Model: PDP-504PE                             |
|-------------------|---------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Pixels  | 1280 x 768 pixels                                                                           | 1280 x 768 pixels                            |
| Audio Amplifier   | 13 W + 13 W (1kHz, 10%, 8Ω)                                                                 | 13 W + 13 W (1kHz, 10%, 8Ω)                  |
| Surround System   | SRS/FOCUS/TruBass                                                                           | SRS/FOCUS/TruBass                            |
| Power Requirement | 110-240V AC, 50/60Hz, 363W<br>(0.3W Standby, 120V)                                          | 220-240V AC, 50/60Hz, 352W<br>(0.5W Standby) |
| Dimensions        | 1270(W) x 737 (H) x 98 (D) mm<br>(50 (W)x 29 (H)x 3 <sup>7</sup> / <sub>8</sub> (D) inches) | 1270(W) x 737 (H) x 98 (D) mm                |
| Weight            | 38 kg (83.8 lbs.)                                                                           | 38 kg (83.8 lbs.)                            |

| Item              | Model: PRO-504PU                                                                            |
|-------------------|---------------------------------------------------------------------------------------------|
| Number of Pixels  | 1280 x 768 pixels                                                                           |
| Audio Amplifier   | 13 W + 13 W (1kHz, 10%, 8Ω)                                                                 |
| Surround System   | SRS/FOCUS/TruBass                                                                           |
| Power Requirement | 120V AC, 60Hz, 363W<br>(0.3W Standby)                                                       |
| Dimensions        | 1270(W) x 737 (H) x 98 (D) mm<br>(50 (W)x 29 (H)x 3 <sup>7</sup> / <sub>8</sub> (D) inches) |
| Weight            | 38 kg (83.8 lbs.)                                                                           |

### • Accessories

|                                                                                                                                          |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Power Cord</p>  <p>(PDP-504PE: ADG1214)</p>        | <p>Speaker Cushion x1<br/>(AEB1384)</p>  <p>(Except PRO-504PU)</p>                                                                                                            | <p>Wiping Cloth x1<br/>(AED1208)</p>                                                                                                                                             |
|  <p>(PDP-504PU: ADG1215)<br/>(PRO-504PU: ADG1215)</p> | <p>Binder Assy (AEC1908)</p> <div> <p>• Bead Bands x3</p>  <p>• Speed Clamp x3</p>  </div> | <div> <p>Ferrite Core<br/>(ATX1039)</p>  <p>• Cable Tie</p>  </div> <p>(PDP-504PE only)</p> |

## 2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

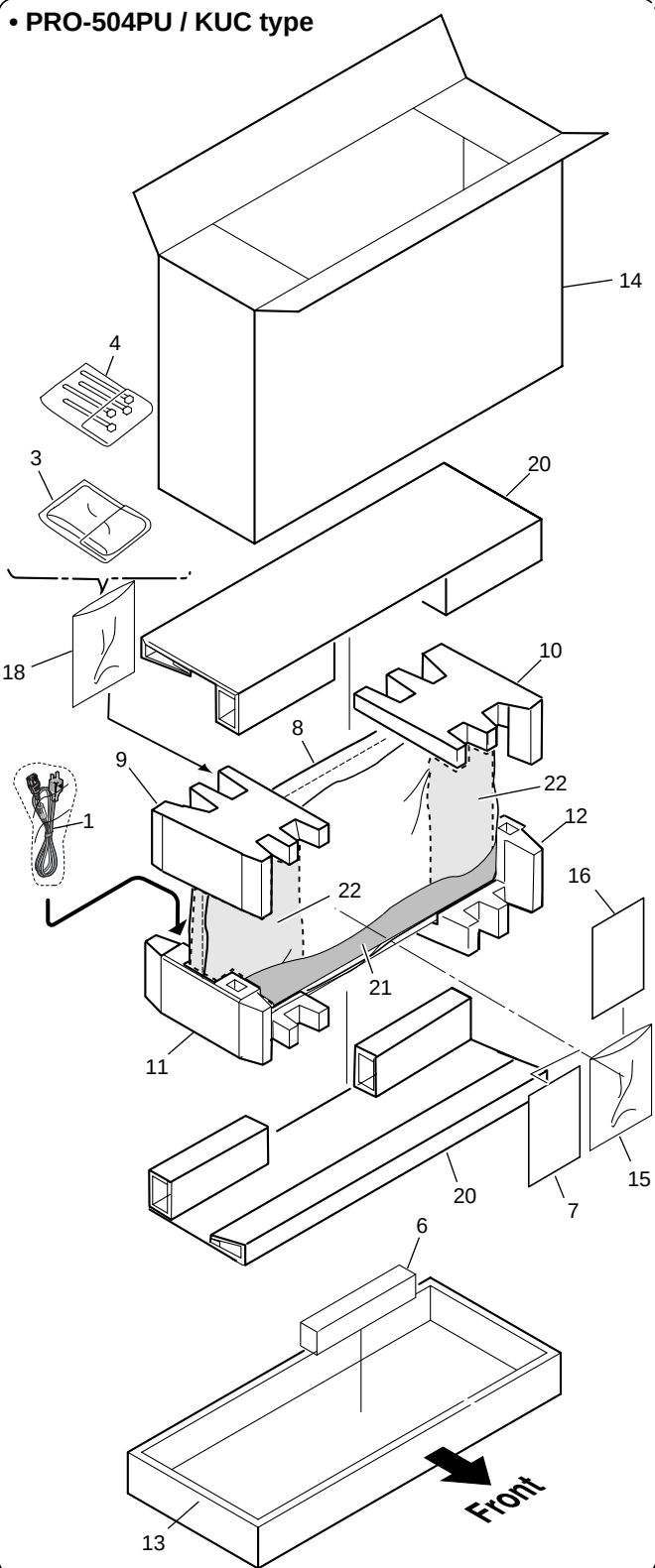
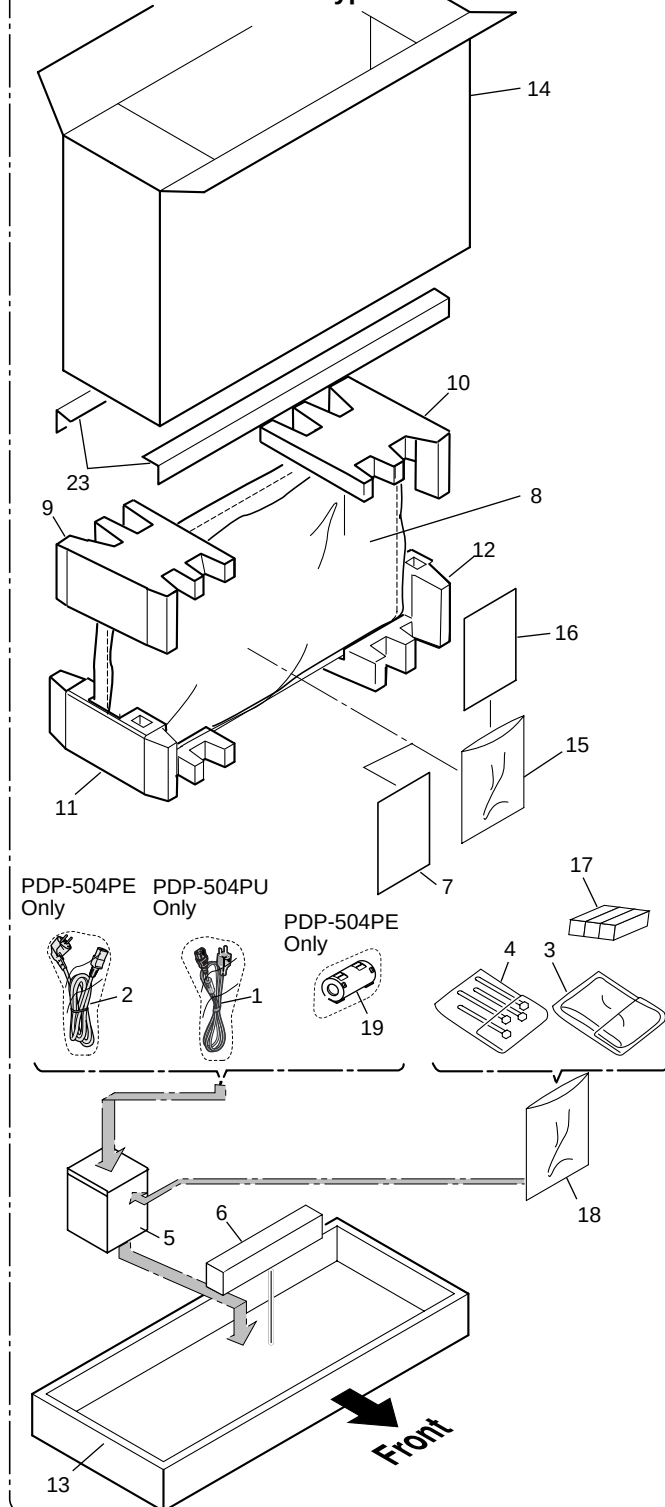
● Screws adjacent to ▼ mark on product are used for disassembly.

● For the applying amount of lubricants or glue, follow the instructions in this manual.  
(In the case of no amount instructions, apply as you think it appropriate.)

### 2.1 PACKING

- PDP-504PU / TUCK
- PDP-504PE / WYVI6
- PDP-504PE / WYVI6XK types

- PRO-504PU / KUC type



## PACKING Parts List

| Mark | No. | Description     | Part No.               | Mark | No.                | Description            | Part No. |
|------|-----|-----------------|------------------------|------|--------------------|------------------------|----------|
| ⚠    | 1   | Power Cord      | See Contrast table (2) | 13   | Carton (50)        | See Contrast table (2) |          |
| ⚠    | 2   | Power Cord      | See Contrast table (2) | 14   | Upper Carton (50)  | See Contrast table (2) |          |
|      | 3   | Wiping Cloth    | AED1208                | 15   | Vinyl Bag          | AHG1310                |          |
|      | 4   | Binder Assy     | AEC1908                |      |                    |                        |          |
|      | 5   | Code Case       | See Contrast table (2) | 16   | Caution Card       | ARM1232                |          |
|      | 6   | Center Pad (50) | AHA2335                | 17   | Speaker Cushion    | See Contrast table (2) |          |
| NSP  | 7   | Warranty Card   | See Contrast table (2) | 18   | Vinyl Bag S        | See Contrast table (2) |          |
|      | 8   | Mirror Mat      | See Contrast table (2) | 19   | Ferrite Core       | See Contrast table (2) |          |
|      | 9   | Pad (PP T- L)   | AHA2315                | 20   | Inner Carton       | See Contrast table (2) |          |
|      | 10  | Pad (PP T- R)   | AHA2316                | 21   | Polyethirene Sheet | See Contrast table (2) |          |
|      | 11  | Pad (PP B- L)   | AHA2343                | 22   | Paper              | See Contrast table (2) |          |
|      | 12  | Pad (PP B- R)   | AHA2344                | 23   | Sub Carton         | See Contrast table (2) |          |

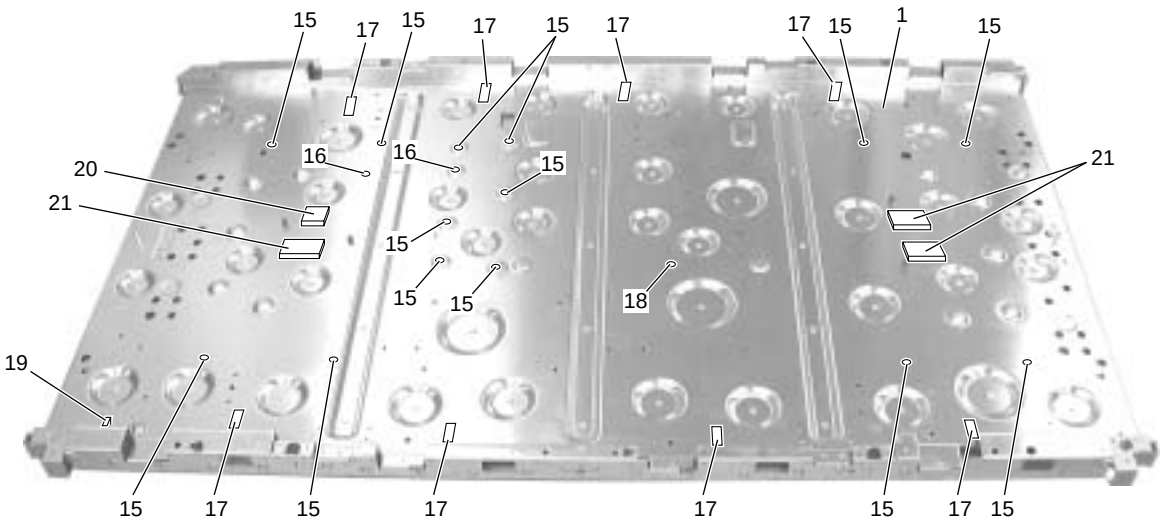
## (2) CONTRAST TABLE

PDP-504PU/ TUCK, PDP-504PE/ WYVI6, PDP-504PE/ WYVI6XK and PRO-504PU/ KUC are constructed the same except for the following :

| Mark | No. | Symbol and Description | PDP-504PU<br>TUCK | PDP-504PE<br>WYVI6 | PDP-504PE<br>WYVI6XK | PRO-504PU<br>KUC |
|------|-----|------------------------|-------------------|--------------------|----------------------|------------------|
| ⚠    | 1   | Power Cord             | ADG1215           | Not used           | Not used             | ADG1215          |
| ⚠    | 2   | Power Cord             | Not used          | ADG1214            | ADG1214              | Not used         |
|      | 5   | Code Case              | AHC1041           | AHC1041            | AHC1049              | Not used         |
| NSP  | 7   | Warranty Card          | ARY1138           | ARY1114            | ARY1114              | ARY1134          |
|      | 8   | Mirror Mat             | AHG1284           | AHG1284            | AHG1327              | AHG1284          |
|      | 13  | Carton (50)            | AHD3177           | AHD3177            | Not used             | Not used         |
|      | 13  | Carton (50)            | Not used          | Not used           | AHD3191              | Not used         |
|      | 13  | Carton (50EL)          | Not used          | Not used           | Not used             | AHD3222          |
|      | 14  | Upper Carton (50PU)    | AHD3178           | Not used           | Not used             | Not used         |
|      | 14  | Upper Carton (504PE)   | Not used          | AHD3203            | Not used             | Not used         |
|      | 14  | Upper Carton (50)      | Not used          | Not used           | AHD3190              | Not used         |
|      | 14  | Upper Carton (50EL)    | Not used          | Not used           | Not used             | AHD3223          |
|      | 17  | Speaker Cushion        | AEB1384           | AEB1384            | AEB1384              | Not used         |
|      | 18  | Vinyl Bag S            | AHG1338           | AHG1338            | Not used             | AHG1338          |
|      | 19  | Ferrite Core           | Not used          | ATX1039            | ATX1039              | Not used         |
|      | 20  | Inner Carton           | Not used          | Not used           | Not used             | AHB1251          |
|      | 21  | Polyethirene Sheet     | Not used          | Not used           | Not used             | AHG1341          |
|      | 22  | Paper                  | Not used          | Not used           | Not used             | AHG1343          |
|      | 23  | Sub Carton             | AHB1248           | AHB1248            | AHB1248              | Not used         |

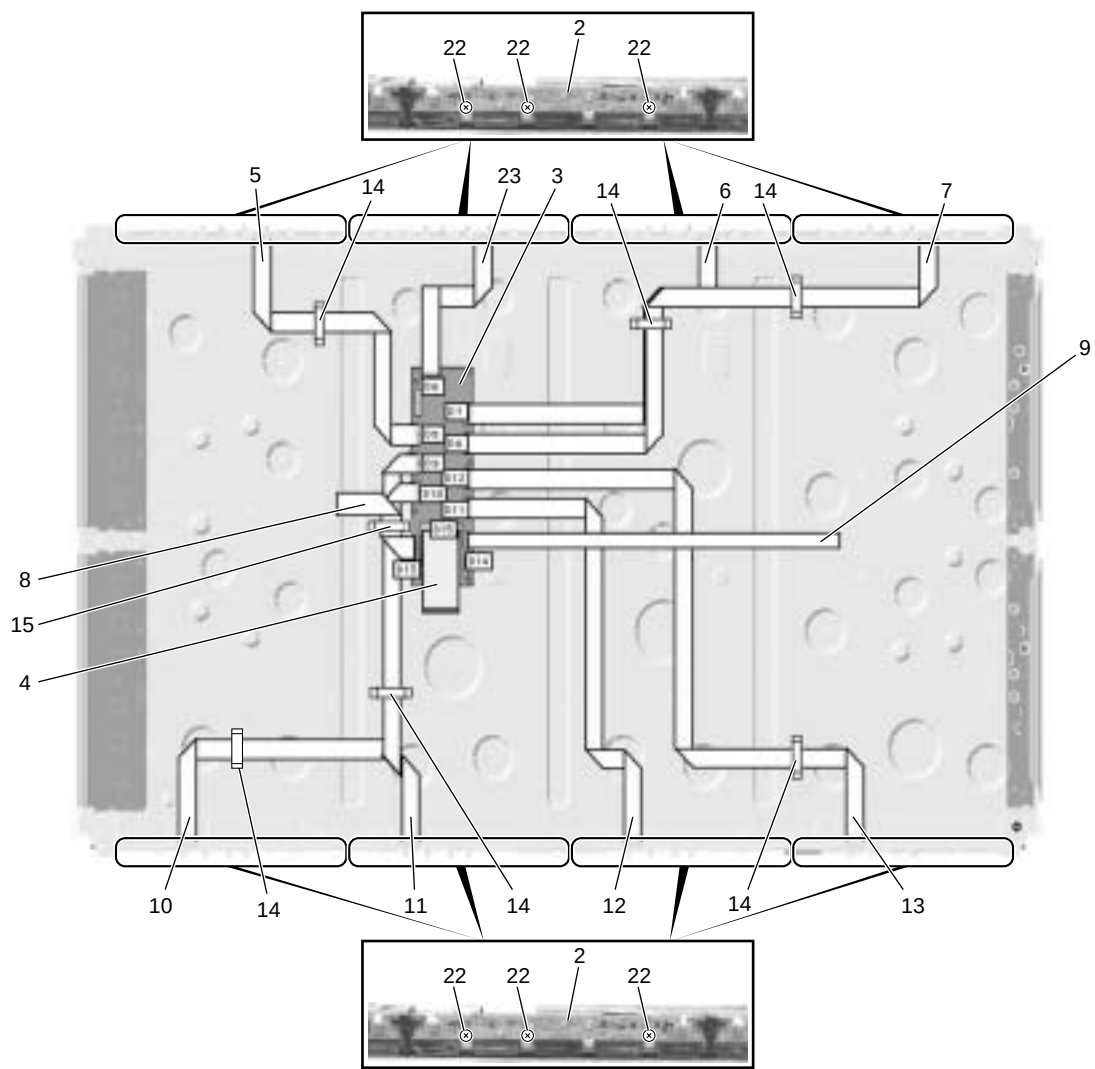
2.2 CHASSIS SECTION (1)

A



B

C



D

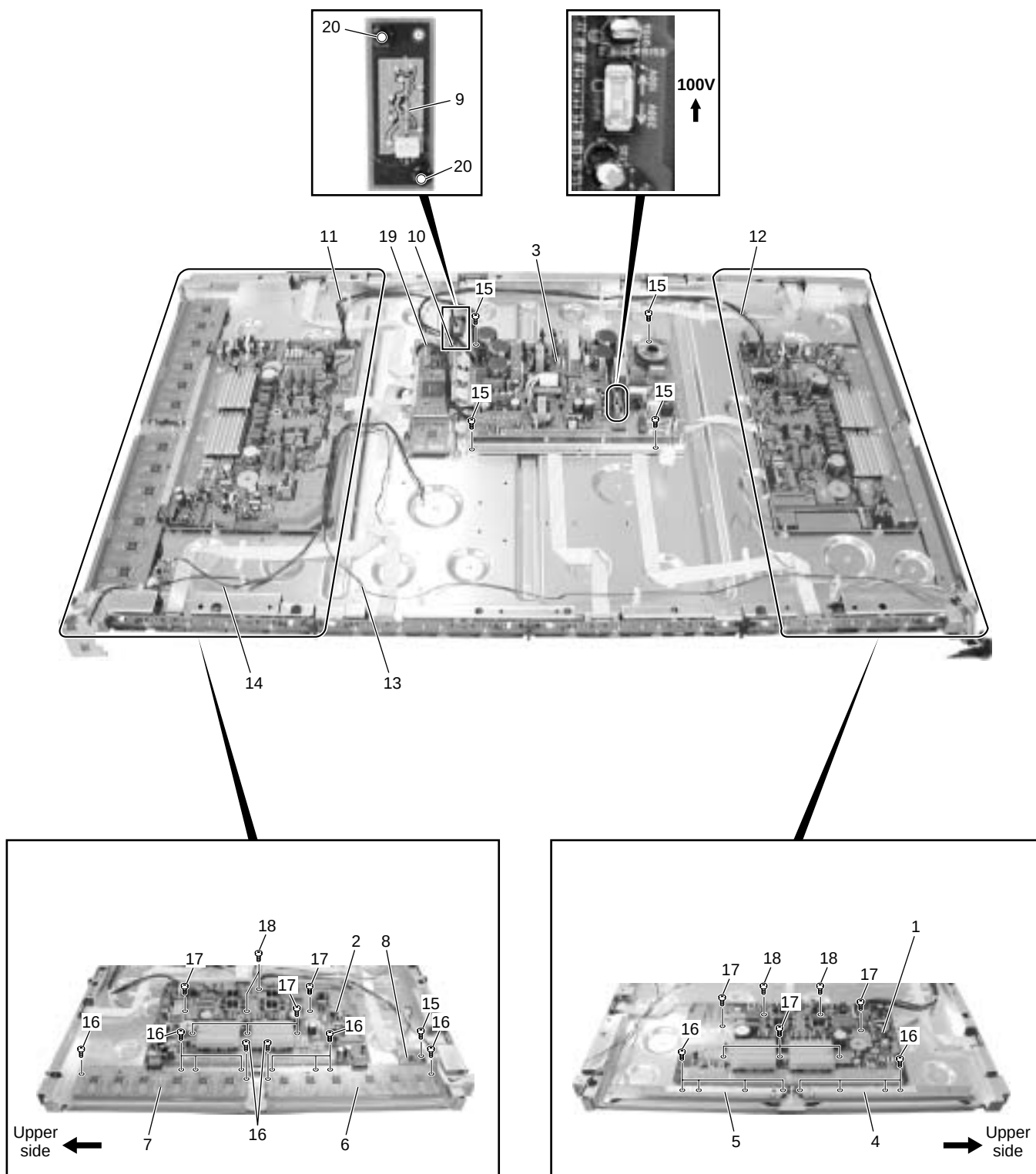
E

F

## CHASSIS SECTION (1) Parts List

| <u>Mark No.</u> | <u>Description</u>    | <u>Part No.</u> |
|-----------------|-----------------------|-----------------|
| NSP 1           | P.Chassis (50) Assy   | AWU1081         |
| NSP 2           | 50 ADDRESS Assy       | AWZ6839         |
| 3               | DIGITAL VIDEO Assy    | AWV2070         |
| 4               | FPC (114P)            | ADY1081         |
| 5               | Flexible Cable (J201) | ADD1228         |
| 6               | Flexible Cable (J203) | ADD1230         |
| 7               | Flexible Cable (J204) | ADD1231         |
| 8               | Flexible Cable (J209) | ADD1236         |
| 9               | Flexible Cable (J210) | ADD1237         |
| 10              | Flexible Cable (J205) | ADD1232         |
| 11              | Flexible Cable (J206) | ADD1233         |
| 12              | Flexible Cable (J207) | ADD1234         |
| 13              | Flexible Cable (J208) | ADD1235         |
| 14              | Flat Clamp            | AEC1879         |
| 15              | PCB Spacer            | AEC1941         |
| 16              | PCB Support           | AEC1938         |
| 17              | Wire Saddle           | AEC1745         |
| 18              | PCB Spacer            | AEC1947         |
| 19              | Wire Clip             | AEC1948         |
| 20              | Drive Siricon Sheet   | AEH1066         |
| 21              | Drive Siricon Sheet   | AEH1065         |
| 22              | Screw                 | VBB30P080FNI    |
| 23              | Flexible Cable (J202) | ADD1229         |

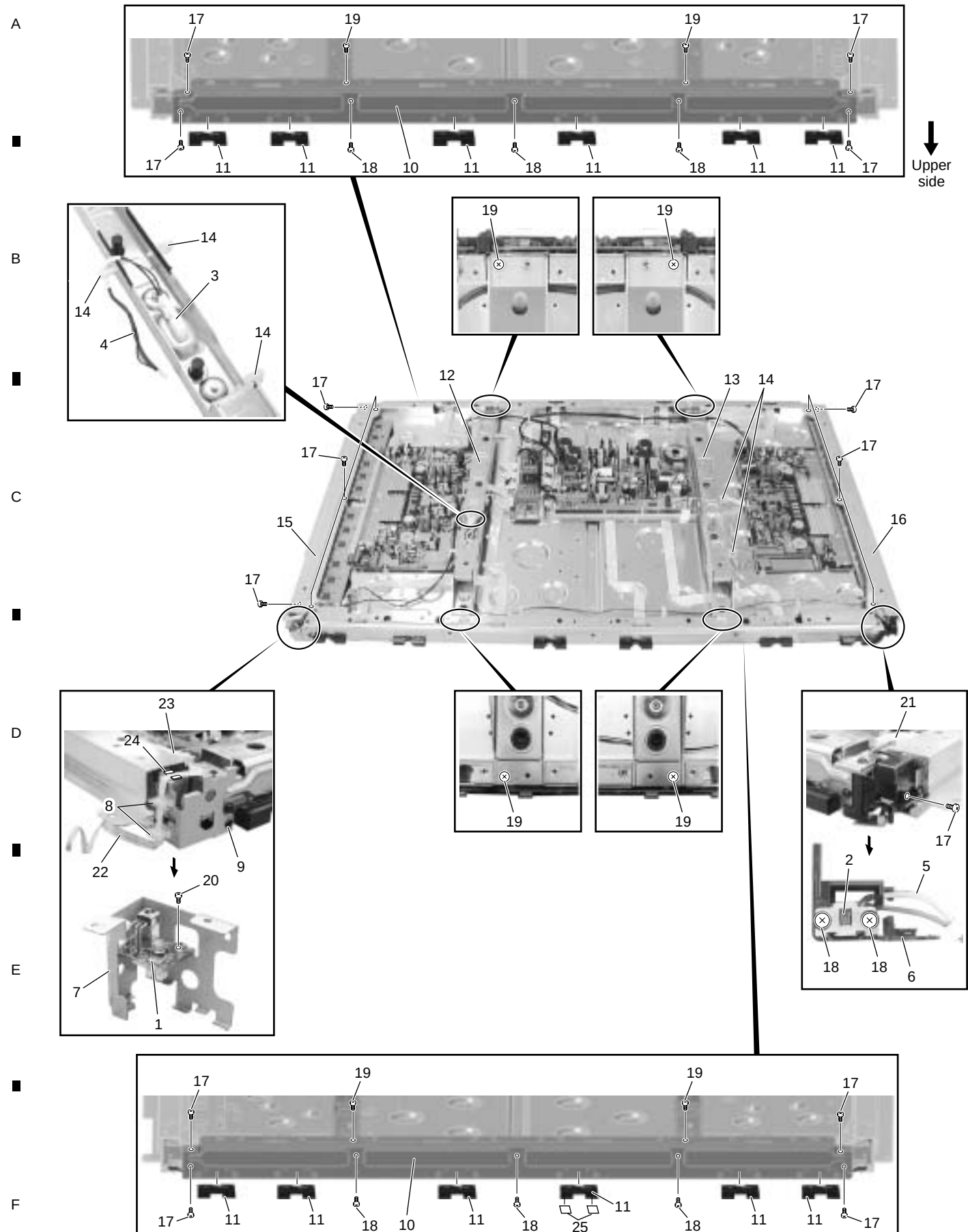
## 2.3 CHASSIS SECTION (2)



## CHASSIS SECTION (2) Parts List

| <u>Mark</u> | <u>No.</u> | <u>Description</u>      | <u>Part No.</u> |
|-------------|------------|-------------------------|-----------------|
|             | 1          | 50 X DRIVE Assy         | AWZ6808         |
|             | 2          | 50 Y DRIVE Assy         | AWV2035         |
|             | 3          | POWER SUPPLY Unit       | AXY1068         |
| NSP         | 4          | X CONNECTOR A Assy      | AWZ6811         |
| NSP         | 5          | X CONNECTOR B Assy      | AWZ6812         |
| NSP         | 6          | 50 SCAN A Assy          | AWZ6809         |
| NSP         | 7          | 50 SCAN B Assy          | AWZ6810         |
|             | 8          | KEY CONTROL Assy        | AWZ6789         |
|             | 9          | PANEL SENSOR Assy       | AWZ6795         |
|             | 10         | 3P Housing Wire (J109)  | ADX2847         |
|             | 11         | 11P Housing Wire (J102) | ADX2853         |
|             | 12         | 12P Housing Wire(J103)  | ADX2854         |
|             | 13         | 3P Housing Wire (J108)  | ADX2857         |
|             | 14         | Wire B (J106)           | ADX2855         |
|             | 15         | Screw                   | ABZ30P060FMC    |
|             | 16         | Screw                   | PMB30P060FNI    |
|             | 17         | Screw                   | VBB30P080FNI    |
|             | 18         | Screw                   | PMB40P080FZK    |
|             | 19         | Wire A (J101)           | ADX2839         |
|             | 20         | Nyron Rivet             | AEC1671         |

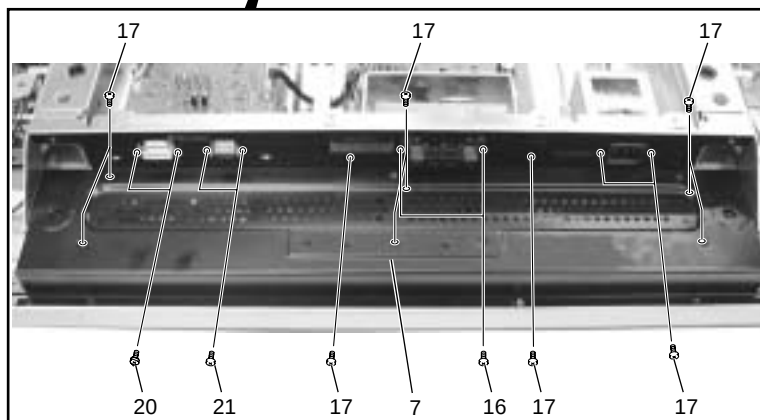
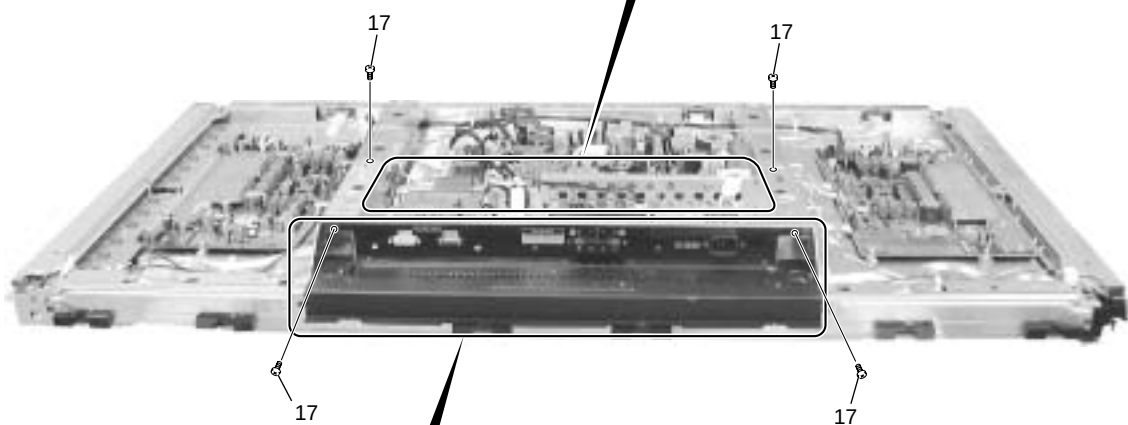
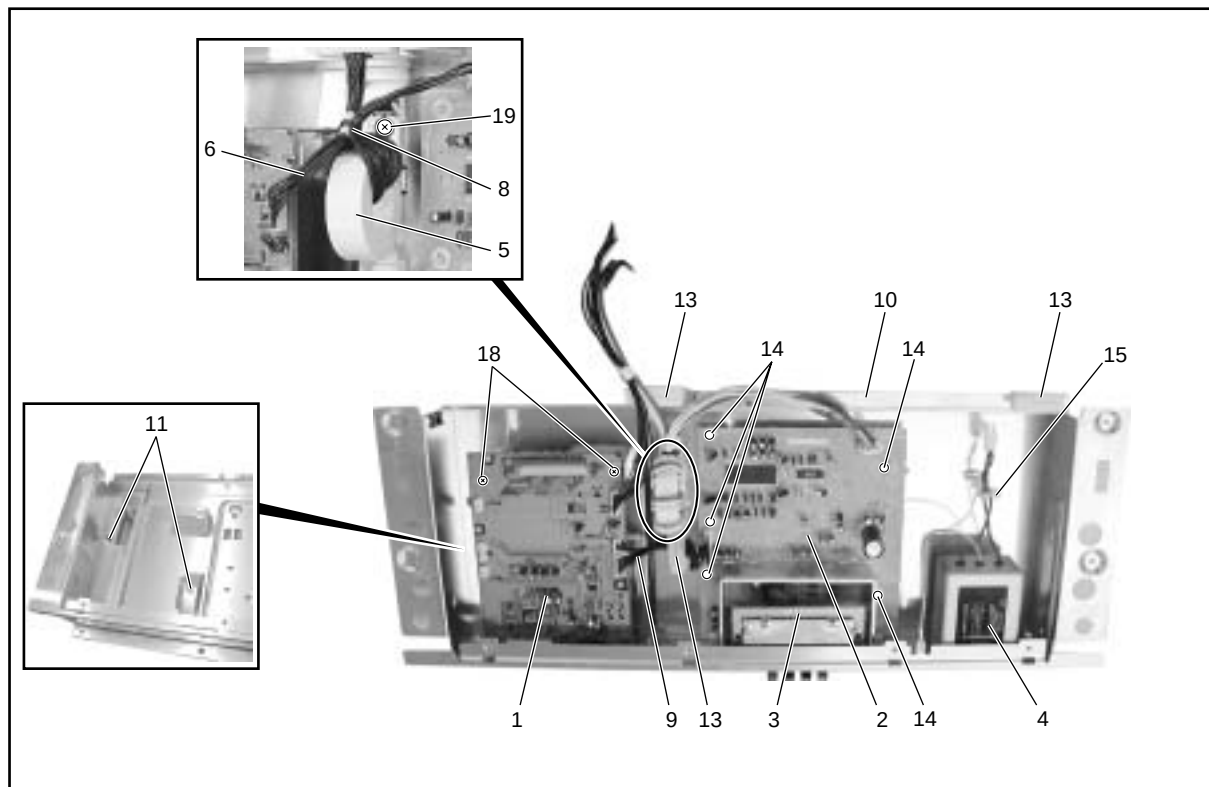
## 2.4 FLAME SECTION



## FLAME SECTION Parts Liat

| <u>Mark</u> | <u>No.</u> | <u>Description</u>         | <u>Part No.</u> |
|-------------|------------|----------------------------|-----------------|
|             | 1          | PANEL IR Assy              | AWZ6790         |
| ⚠           | 2          | Power Switch (S1)          | ASG1092         |
|             | 3          | Power Switch (S2)          | ASG1089         |
|             | 4          | 3P Housing Wire (J107)     | ADX2856         |
|             | 5          | Housing Wire (50) (J110)   | ADX2858         |
|             | 6          | Switch Holder              | AMR3349         |
| NSP         | 7          | IR Holder                  | ANG2551         |
|             | 8          | Wire Saddle                | AEC1948         |
|             | 9          | Nyron Rivet                | AEC1671         |
| NSP         | 10         | Front Chassis H (50)       | ANA1733         |
|             | 11         | Front Spacer               | AMR3369         |
|             | 12         | Sub Frame L Assy (50P)     | ANG2638         |
|             | 13         | Sub Frame R Assy (50P)     | ANG2561         |
|             | 14         | Edging Saddle              | AEC1745         |
|             | 15         | Front Chassis VL Assy (50) | ANA1765         |
|             | 16         | Front Chassis VR Assy (50) | ANA1766         |
|             | 17         | Screw                      | AMZ30P060FZK    |
|             | 18         | Screw                      | APZ30P080FZK    |
|             | 19         | Screw                      | AMZ30P080FMC    |
|             | 20         | Screw                      | ABZ30P060FMC    |
|             | 21         | Flat Clamp                 | AEC1884         |
|             | 22         | Flexible Cable (J211)      | ADD1225         |
|             | 23         | Flat Clamp                 | AEC1879         |
|             | 24         | Gasket                     | ANK1725         |
|             | 25         | Spacer                     | AEB1397         |

## 2.5 MULTI BASE SECTION



## MULTI BASE SECTION Parts List

| <u>Mark No.</u> | <u>Description</u>      | <u>Part No.</u> |
|-----------------|-------------------------|-----------------|
| 1               | PANEL IF Assy           | AWZ6786         |
| 2               | HD AUDIO AMP Assy       | AWZ6834         |
| 3               | HD SP TERMINAL Assy     | AWZ6792         |
| ⚠ 4             | AC Inlet                | AKP1244         |
| 5               | Toroidal Core           | ATX1042         |
| 6               | Wire C (J104)           | ADX2879         |
| 7               | Under Cover Assy        | ANG2589         |
| 8               | Nyron Binder            | AEC-093         |
| 9               | 13P Housing Wire (J105) | ADX2843         |
| 10              | Multi Base Assy (P)     | ANA1718         |
| 11              | Locking Card Spacer     | AEC1940         |
| 12              | Edge Saddle             | AEC1946         |
| 13              | Clamp                   | AEC1884         |
| 14              | PCB Spacer              | AEC1941         |
| 15              | Niplocker               | BEC1136         |
| 16              | Screw                   | APZ30P080FZK    |
| 17              | Screw                   | AMZ30P060FZK    |
| 18              | Screw                   | PMB30P060FNI    |
| 19              | Screw                   | ABA1294         |
| 20              | Hexagon Head Screw      | BBA1051         |
| 21              | Screw                   | PMZ26P060FZK    |

## 2.6 REAR SECTION

A

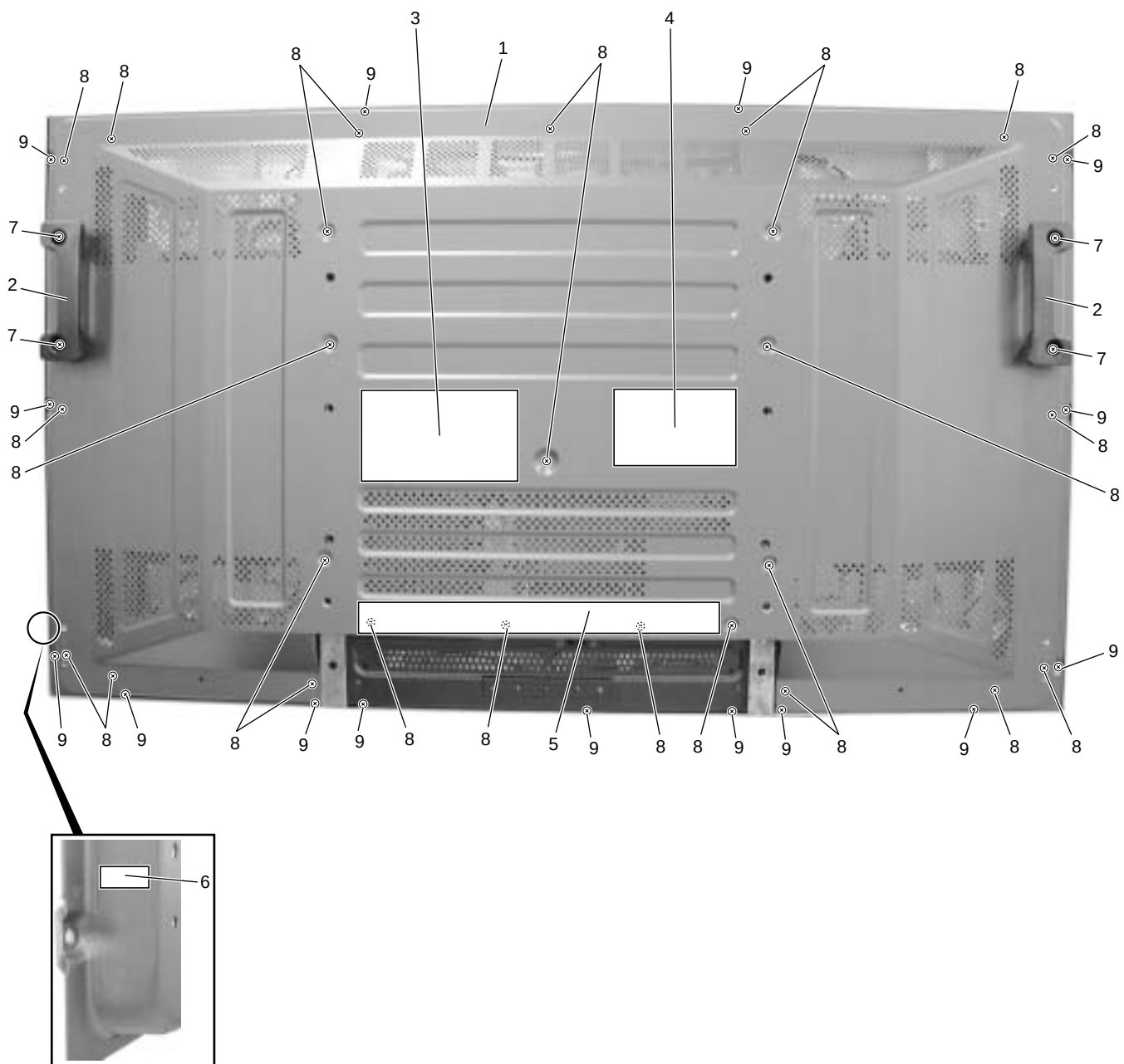
B

C

D

E

F



## REAR SECTION Parts List

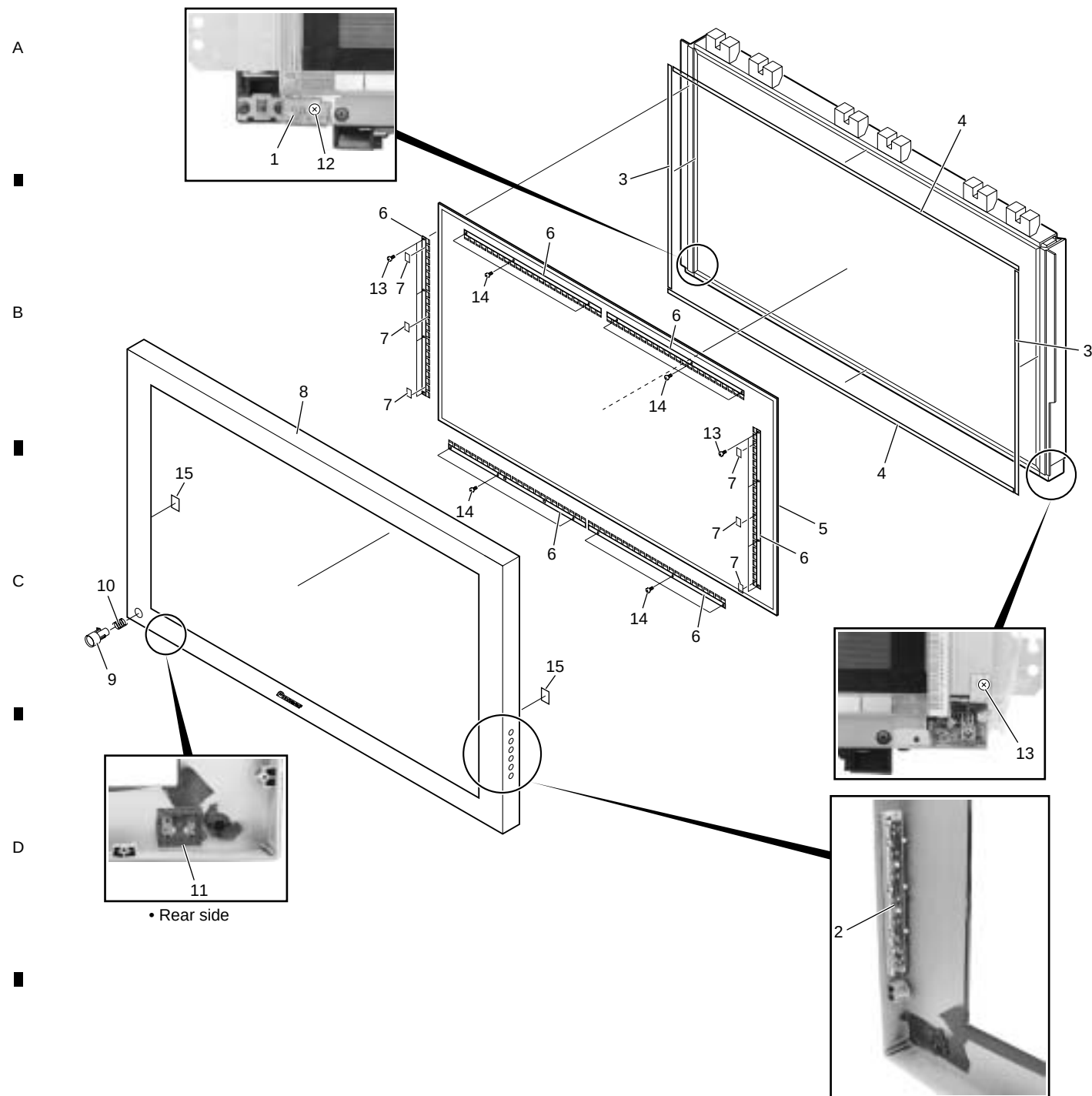
| <u>Mark No.</u> | <u>Description</u> | <u>Part No.</u>        | <u>Mark No.</u> | <u>Description</u> | <u>Part No.</u> |
|-----------------|--------------------|------------------------|-----------------|--------------------|-----------------|
| 1               | Rear Case (504P)   | ANE1614                | 7               | Screw              | PMB50P120FZK    |
| 2               | Grip               | AMR3380                | 8               | Screw              | AMZ30P060FZK    |
| NSP 3           | Name Label         | See Contrast table (2) | 9               | Screw              | ABZ30P100FZK    |
| 4               | Caution Label      | See Contrast table (2) |                 |                    |                 |
| 5               | Terminal Label     | See Contrast table (2) |                 |                    |                 |
| 6               | Disply Label       | AAX2836                |                 |                    |                 |

### (2) CONTRAST TABLE

PDP-504PU/ TUCK, PDP-504PE/ WYVI6, PDP-504PE/ WYVI6XK and PRO-504PU/ KUC are constructed the same except for the following :

| Mark | No. | Symbol and Description | PDP-504PU<br>TUCK | PDP-504PE<br>WYVI6 | PDP-504PE<br>WYVI6XK | PRO-504PU<br>KUC |
|------|-----|------------------------|-------------------|--------------------|----------------------|------------------|
| NSP  | 3   | Name Label             | AAL2469           | AAL2488            | AAL2481              | AAL2500          |
|      | 4   | Caution Label          | AAX3007           | AAX3007            | AAX3005              | AAX3007          |
|      | 5   | Terminal Label         | AAX2997           | AAX2998            | AAX3006              | AAX2997          |

## 2.7 FRONT PANEL SECTION



## FRONT PANEL SECTION Parts List

| <u>Mark No.</u> | <u>Description</u>      | <u>Part No.</u>        | <u>Mark No.</u> | <u>Description</u> | <u>Part No.</u>        |
|-----------------|-------------------------|------------------------|-----------------|--------------------|------------------------|
| 1               | PANEL LED Assy          | AWZ6787                | 9               | Power Button       | See Contrast table (2) |
| 2               | PANEL KEY Assy          | AWZ6788                | 10              | Coil Spring        | ABH1114                |
| 3               | Panel Cushion V         | AED1199                | 11              | Blind Cushion      | AEB1383                |
| 4               | Panel Cushion H         | AED1226                | 12              | Screw              | BBZ30P050FMC           |
| 5               | Protect Panel Assy (50) | See Contrast table (2) | 13              | Screw              | ABZ30P060FMC           |
| NSP 6           | Panel Holder (50)       | ANG2563                | 14              | Serial Sheet       | AAX2609                |
| 7               | Cushion                 | AEB1393                | 15              | Case Spacer S      | AEC1984                |
| 8               | Front Case Assy         | See Contrast table (2) |                 |                    |                        |

## (2) CONTRAST TABLE

PDP-504PU/ TUCK, PDP-504PE/ WYVI6, PDP-504PE/ WYVI6XK and PRO-504PU/ KUC are constructed the same except for the following :

| Mark | No. | Symbol and Description  | PDP-504PU<br>TUCK | PDP-504PE<br>WYVI6 | PDP-504PE<br>WYVI6XK | PRO-504PU<br>KUC |
|------|-----|-------------------------|-------------------|--------------------|----------------------|------------------|
|      | 5   | Protect Panel Assy (50) | AMR3385           | AMR3348            | AMR3348              | AMR3348          |
|      | 8   | Front Case Assy         | AMB2763           | AMB2763            | AMB2763              | AMB2804          |
|      | 9   | Power Button            | AAD4123           | AAD4123            | AAD4123              | AAD4126          |

## 2.8 PANEL CHASSIS (50) Assy (AWU1081)

### PANEL CHASSIS (50) Assy (AWU1081) Parts List

| <u>Mark No.</u> | <u>Description</u>            | <u>Part No.</u> | <u>Mark No.</u> | <u>Description</u>   | <u>Part No.</u> |
|-----------------|-------------------------------|-----------------|-----------------|----------------------|-----------------|
| NSP             | 1..P. Chassis (50) Assy       | AWU1081         |                 | 2..PCB Spacer        | AEC1944         |
| NSP             | 2..50 ADDRESS Assy            | AWV2069         |                 | 2..PCB Support       | AEC1958         |
| NSP             | 3..50 ADDRESS Assy            | AWZ6839         |                 | 2..Rivet (Plastic)   | AMR1066         |
|                 |                               |                 |                 | 2..FC Spacer         | AMR3370         |
| NSP             | 2..50 SCAN FUKUGO Assy        | AWV2036         |                 | 2..Adhesive          | ZBA-KE3424G     |
| NSP             | 3..50 SCAN A Assy             | AWZ6809         | NSP             | 2..Lotion            | ZLX-AP7         |
| NSP             | 3..50 SCAN B Assy             | AWZ6810         | NSP             | 2..Tape              | ZTA-8101-12     |
| NSP             | 3..X CONNECTOR A Assy         | AWZ6811         | NSP             | 2..Double Faced Tape | ZTB-5015-18     |
| NSP             | 3..X CONNECTOR B Assy         | AWZ6812         | NSP             | 2..Tape              | ZTC-POLYCA-11   |
|                 |                               |                 | NSP             | 2..Tape              | ZTC-POLYCA-20   |
| NSP             | 2..Address Module (IC1-IC40)  | AXF1116         | NSP             | 2..Tape              | ZTC-900UL-15    |
| NSP             | 2..Plasma Panel Assy(50")(V1) | AAV1244         | NSP             | 2..Silicone Rubber   | ZTX-HC20-15     |
| NSP             | 2..FPC (50XGA-X)              | ADY1084         | NSP             | 2..Wiping Cloth      | ZTX-MX100-13    |
| NSP             | 2..FPC (50XGA-Y)              | ADY1085         | NSP             | 2..Film              | ZTX-2102Y35-2R5 |
| NSP             | 2..Chassis Assy (50)          | ANA1774         | NSP             | 2..Film              | ZTX-2102Y45-5   |

## 2.9 PDP SERVICE Assy (AWU1080)

### PDP SERVICE Assy (AWU1080) Parts List

| <u>Mark No.</u> | <u>Description</u>       | <u>Part No.</u> | <u>Mark No.</u>                                                                                                                                        | <u>Description</u>          | <u>Part No.</u> |
|-----------------|--------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------|
| NSP             | 1..P. Chassis (50) Assy  | AWU1081         |                                                                                                                                                        | 2..Front Spacer             | AMR3369         |
| NSP             | 2..Front Chassis H (50)  | ANA1733         |                                                                                                                                                        | 2..Caution Label            | AAX3031         |
|                 | 2..Front Chassis VL (50) | ANA1765         | NSP                                                                                                                                                    | 2..Drive Voltage Label      | ARW1097         |
|                 | 2..Front Chassis VR (50) | ANA1766         |                                                                                                                                                        | 2..Front Case (504 Service) | AMB2811 (Note)  |
|                 | 2..Sub Frame L Assy      | ANG2559         |                                                                                                                                                        | 2..Rear Case (50P)          | ANE1614 (Note)  |
|                 | 2..Sub Frame R Assy      | ANG2561         | Note: The front case (504 Service) and rear case (50P) attached to the Service Assy are for transportation only. Do NOT use them as parts of the unit. |                             |                 |
|                 | 2..Wire Saddle           | AEC1745         |                                                                                                                                                        | 2..Screw                    | AMZ30P060FZK    |
|                 | 2..Clamp                 | AEC1884         |                                                                                                                                                        | 2..Screw                    | AMZ30P080FMC    |
|                 | 2..PCB Support           | AEC1938         |                                                                                                                                                        | 2..Screw                    | AMZ30P080FZK    |
|                 | 2..PCB Spacer            | AEC1941         |                                                                                                                                                        | 2..Screw                    | PMB30P060FNI    |
|                 | 2..PCB Spacer            | AEC1947         |                                                                                                                                                        | 2..Screw                    | VBB30P080FNI    |
|                 | 2..Wire Clip             | AEC1948         |                                                                                                                                                        | 2..Screw                    | ABZ30P100FZK    |
|                 | 2..Spacer                | AEB1397         |                                                                                                                                                        |                             |                 |
|                 | 2..Panel Cushion H (50)  | AED1226         |                                                                                                                                                        |                             |                 |
|                 | 2..Panel Cushion V (50)  | AED1199         |                                                                                                                                                        |                             |                 |

### 3.1.1 OVERALL BLOCK DIAGRAM

The diagram illustrates the power supply architecture for a 50-inch LCD TV, centered around the **DIGITAL VIDEO ASSY** and its connections to other major components.

**Top Section: 50 ADDRESS ASSY**

- Two identical units are shown at the top, each containing:
  - IC1551** through **IC1555** (Driver ICs).
  - IC1501** (Address IC).
  - RESONANCE BLOCK**.
  - Power inputs: **V+5V**, **V+3V\_LVDS**, **V+3V\_PLL**, **V+3V\_IC5**, **V+ADR**, **V+9V**, **V+60V**.
  - Output: **V+9VV+60V**.

**Left Section: 50 SCAN B ASSY and 50 SCAN A ASSY**

- 50 SCAN B ASSY** (top left) contains:
  - ADD SEL PULSE** blocks **IC3201** through **IC3206**.
  - Power inputs: **IC5V**, **VCC\_VH**, **PSUS**.
  - Output: **SCAN** signal.
- 50 SCAN A ASSY** (bottom left) contains:
  - ADD SEL PULSE** blocks **IC3001** through **IC3006**.
  - Power inputs: **IC5V**, **VCC\_VH**, **PSUS**.
  - Output: **SCAN** signal.

**Center Section: 50 Y DRIVE ASSY**

- Contains a **DC DC CONV BLOCK** and a **REGULATOR** (input **+5V**, output **+6.5V**).
- Inputs: **VCC\_VH**, **V\_IC5V**, **VSUS**, **V\_OF5**, **VC\_VF-**, **VC\_VF+**.
- Outputs: **+5V**, **+16.5V**, **VSUS**, **Drive Signal**.
- Includes a **MASK MOD IC2307**, **SOFT-D BLOCK**, **LOGIC BLOCK**, **RESONANCE BLOCK**, **+RESET BLOCK**, **MASK MOD IC2303**, **OFFSET BLOCK**, and a **Photo Coupler BLOCK**.

**Right Section: DIGITAL VIDEO ASSY**

- DC-DC CONVERTER MODULE** **AXY1066** (input **V+12V**, output **V+6.5V**).
- FLASH MEMORY IC5305**.
- SUB-FILE CONV. & XY DRV SEQUENCE PATTERN GEN.** **IC5401 PD5856A**.
- MODULE UCOM IC5201**.
- Power inputs: **V+12V**, **V+6.5V**, **Vsustn**, **PD\_PWDN**, **PD\_MUTE**, **RELAY, PD\_TRIGGER**.
- Outputs: **V+60V**, **V+6.5V**, **Vsustn**, **PD\_PWDN**, **PD\_MUTE**, **RELAY, PD\_TRIGGER**.
- Includes **OR** and **PD** blocks.

**Bottom Section: 50 ADDRESS ASSY**

- Two identical units are shown at the bottom, each containing:
  - IC1501** (Address IC).
  - RESONANCE BLOCK**.
  - Power inputs: **V+5V**, **V+3V\_LVDS**, **V+3V\_PLL**, **V+3V\_IC5**, **V+ADR**, **V+9V**, **V+60V**.
  - Output: **V+9VV+60V**.

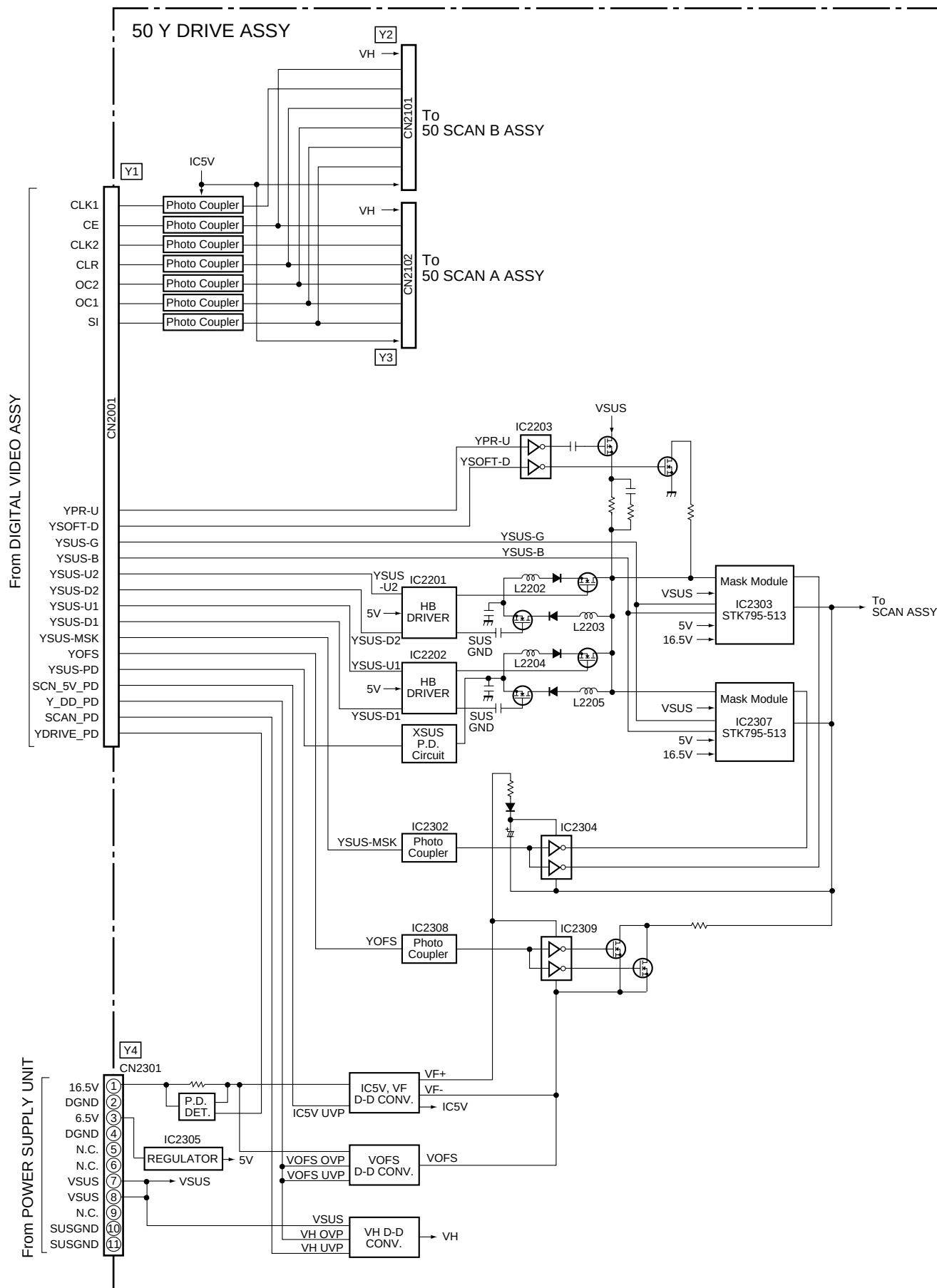
**Connections and Labels:**

- Connectors:** **CN1071**, **CN1072**, **CN1073**, **CN1074**, **CN1075**, **CN1076**, **CN1077**, **CN1078**, **CN1079**, **CN1080**, **CN1081**, **CN1082**, **CN1083**, **CN1084**, **CN1085**, **CN1086**, **CN1087**, **CN1088**, **CN1089**, **CN1090**, **CN1091**, **CN1092**, **CN1093**, **CN1094**, **CN1095**, **CN1096**, **CN1097**, **CN1098**, **CN1099**, **CN1100**, **CN1101**, **CN1102**, **CN1103**, **CN1104**, **CN1105**, **CN1106**, **CN1107**, **CN1108**, **CN1109**, **CN1110**, **CN1111**, **CN1112**, **CN1113**, **CN1114**, **CN1115**, **CN1116**, **CN1117**, **CN1118**, **CN1119**, **CN1120**, **CN1121**, **CN1122**, **CN1123**, **CN1124**, **CN1125**, **CN1126**, **CN1127**, **CN1128**, **CN1129**, **CN1130**, **CN1131**, **CN1132**, **CN1133**, **CN1134**, **CN1135**, **CN1136**, **CN1137**, **CN1138**, **CN1139**, **CN1140**, **CN1141**, **CN1142**, **CN1143**, **CN1144**, **CN1145**, **CN1146**, **CN1147**, **CN1148**, **CN1149**, **CN1150**, **CN1151**, **CN1152**, **CN1153**, **CN1154**, **CN1155**, **CN1156**, **CN1157**, **CN1158**, **CN1159**, **CN1160**, **CN1161**, **CN1162**, **CN1163**, **CN1164**, **CN1165**, **CN1166**, **CN1167**, **CN1168**, **CN1169**, **CN1170**, **CN1171**, **CN1172**, **CN1173**, **CN1174**, **CN1175**, **CN1176**, **CN1177**, **CN1178**, **CN1179**, **CN1180**, **CN1181**, **CN1182**, **CN1183**, **CN1184**, **CN1185**, **CN1186**, **CN1187**, **CN1188**, **CN1189**, **CN1190**, **CN1191**, **CN1192**, **CN1193**, **CN1194**, **CN1195**, **CN1196**, **CN1197**, **CN1198**, **CN1199**, **CN1200**, **CN1201**, **CN1202**, **CN1203**, **CN1204**, **CN1205**, **CN1206**, **CN1207**, **CN1208**, **CN1209**, **CN1210**, **CN1211**, **CN1212**, **CN1213**, **CN1214**, **CN1215**, **CN1216**, **CN1217**, **CN1218**, **CN1219**, **CN1220**, **CN1221**, **CN1222**, **CN1223**, **CN1224**, **CN1225**, **CN1226**, **CN1227**, **CN1228**, **CN1229**, **CN1230**, **CN1231**, **CN1232**, **CN1233**, **CN1234**, **CN1235**, **CN1236**, **CN1237**, **CN1238**, **CN1239**, **CN1240**, **CN1241**, **CN1242**, **CN1243**, **CN1244**, **CN1245**, **CN1246**, **CN1247**, **CN1248**, **CN1249**, **CN1250**, **CN1251**, **CN1252**, **CN1253**, **CN1254**, **CN1255**, **CN1256**, **CN1257**, **CN1258**, **CN1259**, **CN1260**, **CN1261**, **CN1262**, **CN1263**, **CN1264**, **CN1265**, **CN1266**, **CN1267**, **CN1268**, **CN1269**, **CN1270**, **CN1271**, **CN1272**, **CN1273**, **CN1274**, **CN1275**, **CN1276**, **CN1277**, **CN1278**, **CN1279**, **CN1280**, **CN1281**, **CN1282**, **CN1283**, **CN1284**, **CN1285**, **CN1286**, **CN1287**, **CN1288**, **CN1289**, **CN1290**, **CN1291**, **CN1292**, **CN1293**, **CN1294**, **CN1295**, **CN1296**, **CN1297**, **CN1298**, **CN1299**, **CN1300**, **CN1301**, **CN1302**, **CN1303**, **CN1304**, **CN1305**, **CN1306**, **CN1307**, **CN1308**, **CN1309**, **CN1310**, **CN1311**, **CN1312**, **CN1313**, **CN1314**, **CN1315**, **CN1316**, **CN1317**, **CN1318**, **CN1319**,



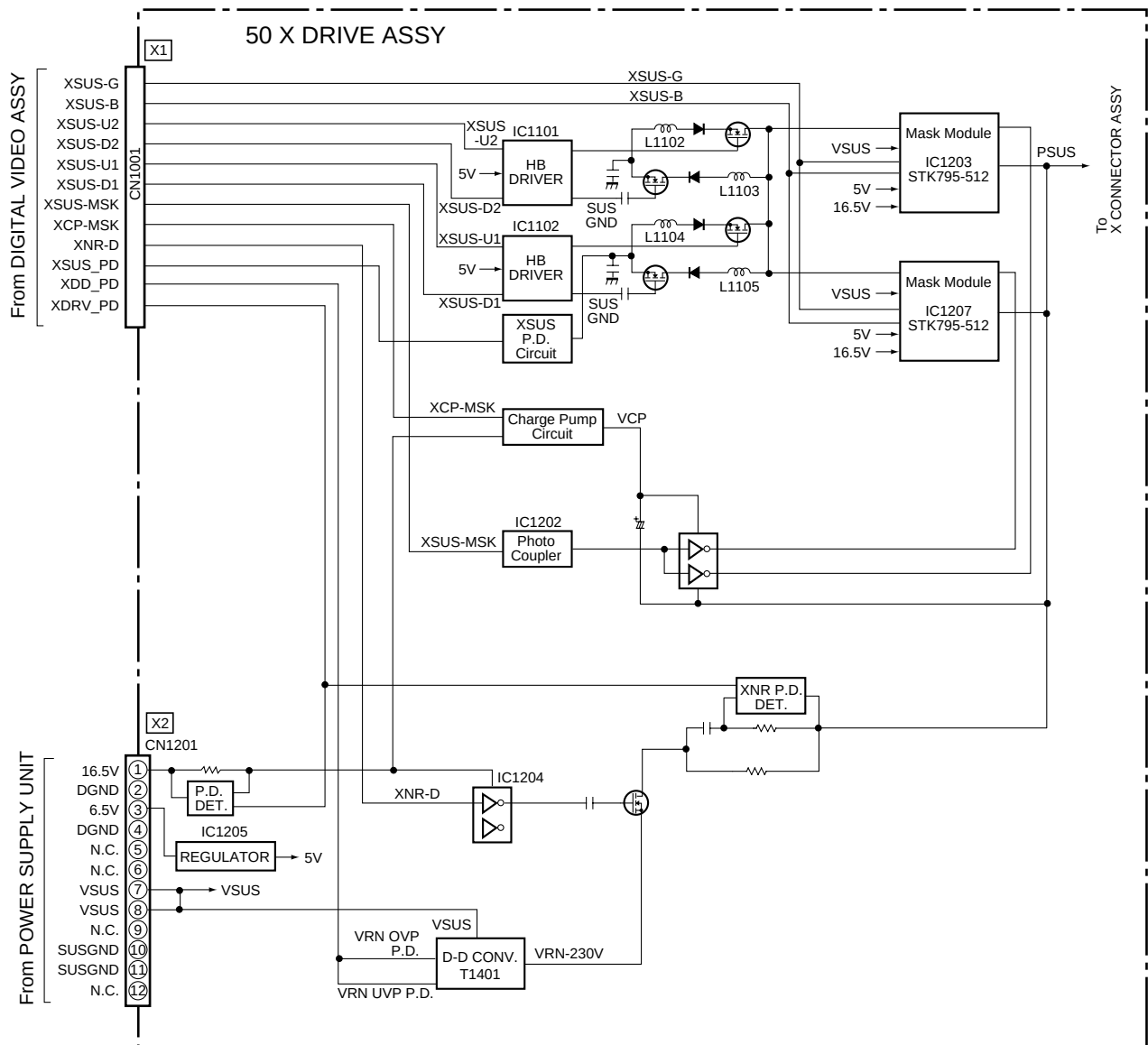
### 3.1.2 50 Y DRIVE ASSY

#### • Block Diagram



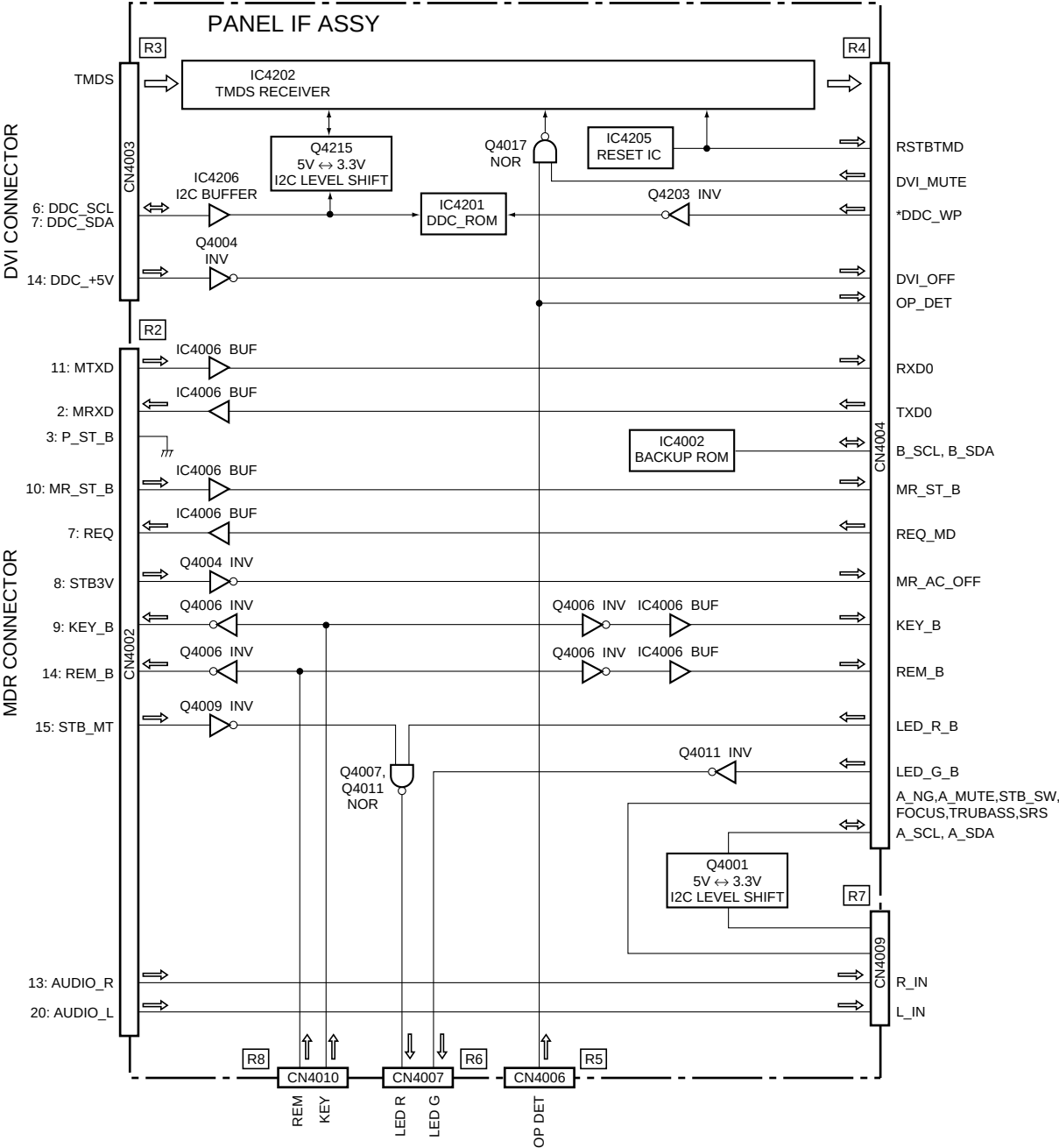
### 3.1.3 50 X DRIVE ASSY

- Block Diagram



3.1.4 PANEL IF ASSY

• Block Diagram



## • Voltages

### CN4001 (R1) < ⇔ POWER SUPPLY UNIT >

| No. | Signal Name | I/O | Signal Description                                    | Voltages at NTSC Signal Input |
|-----|-------------|-----|-------------------------------------------------------|-------------------------------|
| 1   | 6.5V        | I   | +6.5V power supply                                    | +6.8VDC                       |
| 2   | 6.5V        | I   | +6.5V power supply                                    | +6.8VDC                       |
| 3   | Vcc_GND     | –   | GND                                                   |                               |
| 4   | Vcc_GND     | –   | GND                                                   |                               |
| 5   | STB3.3V     | I   | Power supply +3.3V input of module UCOM at panel side | +3.3VDC                       |
| 6   | STB_GND     | –   | GND                                                   |                               |
| 7   | STB3.3MUTE  | O   | Standby control (+3.3V mute)                          | +6.7VDC                       |
| 8   | AC_DET      | I   | Primary power supply (AC) state input at panel side   | +3.0VDC                       |

### CN4002 (R2) < ⇔ MEDIA RECEIVER >

| No. | Signal Name | I/O | Signal Description                                                                | Voltages at NTSC Signal Input                               |
|-----|-------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------|
| 1   | MR_ST_B     | I   | Connection state detecting signal with MDR                                        | 0VDC                                                        |
| 2   | MRXD        | O   | UART communication transmission data with the main UCOM (external PC) at MDR side | 0-3.3V amplitude square wave                                |
| 3   | P_ST_B      | O   | Connection state output for the MDR                                               | 0VDC                                                        |
| 4   | ACT3V       | O   | Power supply +3.3V output of module UCOM at panel side                            | +3.3VDC                                                     |
| 5   | AC_OFF      | O   | Primary power supply (AC) state output at panel side                              | 0VDC                                                        |
| 6   | GND         | –   | GND                                                                               |                                                             |
| 7   | REQ         | O   | Communication request to the main UCOM (external PC) at the MDR                   | 0-3.3V amplitude square wave                                |
| 8   | STB3V       | I   | Standby power supply (+3.3V) input from the MDR                                   | +3.3VDC                                                     |
| 9   | KEY_B       | O   | Function key code signal output at panel side                                     | 0-3.3V amplitude square wave (at key operation)             |
| 10  | MR_ST_B'    | I   | Connection state detecting signal with the MDR                                    | 0VDC                                                        |
| 11  | MTXD        | I   | UART communication receive data with the main UCOM (external PC) at the MDR side  | 0-3.3V amplitude square wave                                |
| 12  | GND         | –   | GND                                                                               |                                                             |
| 13  | AUDIO_R     | I   | R ch audio signal input                                                           | Audio R signal                                              |
| 14  | REM_B       | O   | Remote control code signal output                                                 | 0-3.3V amplitude square wave (at remocon code transmission) |
| 15  | STB_MT      | I   | Standby control input                                                             | 0VDC                                                        |
| 16  | GND         | –   | GND                                                                               |                                                             |
| 17  | NC          | –   | Not connected                                                                     | –                                                           |
| 18  | FIELD       | I   | FIELD control signal                                                              | 0VDC                                                        |
| 19  | GND         | –   | GND                                                                               |                                                             |
| 20  | AUDIO_L     | I   | L ch audio signal input                                                           | Audio L signal                                              |

### CN4003 (R3) < ⇔ MEDIA RECEIVER >

| No. | Signal Name | I/O | Signal Description       | Voltages at NTSC Signal Input |
|-----|-------------|-----|--------------------------|-------------------------------|
| 1   | RX2-        | I   | DVI signal               | DVI differential signal (-)   |
| 2   | RX2+        | I   | DVI signal               | DVI differential signal (+)   |
| 3   | GND         | –   | GND                      |                               |
| 4   | N.C         | –   | Not connected            | –                             |
| 5   | N.C         | –   | Not connected            | –                             |
| 6   | DDC_SCL     | I   | I2C signal for DDC       | 0-5V amplitude square wave    |
| 7   | DDC_SDA     | I   | I2C signal for DDC       | 0-5V amplitude square wave    |
| 8   | N.C         | –   | Not connected            | –                             |
| 9   | RX1-        | I   | DVI signal               | DVI differential signal (-)   |
| 10  | RX1+        | I   | DVI signal               | DVI differential signal (+)   |
| 11  | GND         | –   | GND                      |                               |
| 12  | N.C         | –   | Not connected            | –                             |
| 13  | N.C         | –   | Not connected            | –                             |
| 14  | DDC_+5V     | I   | I2C power supply for DDC | +5VDC                         |
| 15  | GND         | –   | GND                      |                               |
| 16  | HPD         | O   | Hot plug detection       | +5VDC                         |
| 17  | RX0-        | I   | DVI signal               | DVI differential signal (-)   |
| 18  | RX0+        | I   | DVI signal               | DVI differential signal (+)   |
| 19  | GND         | –   | GND                      |                               |
| 20  | N.C         | –   | Not connected            | –                             |
| 21  | N.C         | –   | Not connected            | –                             |

## • Voltages

### CN4003 (R3) < ⇔ MEDIA RECEIVER >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|-----|-------------|-----|--------------------|-------------------------------|
| 22  | GND         | –   | GND                |                               |
| 23  | RXC+        | I   | DVI signal         | DVI differential signal (-)   |
| 24  | RXC-        | I   | DVI signal         | DVI differential signal (+)   |

### CN4006 (R5) < ⇔ TRAP SW >

| No. | Signal Name | I/O | Signal Description               | Voltages at NTSC Signal Input |
|-----|-------------|-----|----------------------------------|-------------------------------|
| 1   | OP_DET      | I   | Rear panel open detecting signal | 0VDC                          |
| 2   | N.C         | –   | Not connected                    | –                             |
| 3   | GND         | –   | GND                              |                               |

### CN4007 (R6) < ⇔ PANEL LED ASSY >

| No. | Signal Name | I/O | Signal Description                                       | Voltages at NTSC Signal Input |
|-----|-------------|-----|----------------------------------------------------------|-------------------------------|
| 1   | LED_G       | O   | LED control (green)                                      | +2.1VDC                       |
| 2   | LED_R       | O   | LED control (red)                                        | 0VDC                          |
| 3   | AC_OFF      | O   | Primary power supply (AC) state output at the panel side | 0VDC                          |

### CN4009 (R7) < ⇔ HD AUDIO AMP ASSY >

| No. | Signal Name | I/O | Signal Description                           | Voltages at NTSC Signal Input |
|-----|-------------|-----|----------------------------------------------|-------------------------------|
| 1   | A_NG        | I   | Abnormal detecting signal of the audio block | +3.3V DC                      |
| 2   | V+6.5       | O   | +6.5V power supply                           | +6.8V DC                      |
| 3   | GND A       | –   | GND                                          |                               |
| 4   | L_IN        | O   | L ch audio signal                            | Audio L signal                |
| 5   | GND A       | –   | GND                                          |                               |
| 6   | R_IN        | O   | R ch audio signal                            | Audio R signal                |
| 7   | ST_BY       | O   | Standby signal of the audio block            | +3.3V DC                      |
| 8   | A_MUTE      | O   | Audio mute signal input                      | 0V DC                         |
| 9   | SCL         | O   | I2C control signal for audio                 | 0-3.3V amplitude square wave  |
| 10  | SDA         | O   | I2C control signal for audio                 | 0-3.3V amplitude square wave  |
| 11  | FOCUS       | O   | Focus function control signal                | +3.3V DC                      |
| 12  | SRS         | O   | SRS function control signal                  | +3.3V DC                      |
| 13  | TRUBASS     | O   | TRUBASS function control signal              | +3.3V DC                      |

### CN4010 (R8) < ⇔ PANEL IR ASSY, KEY CONTROL ASSY >

| No. | Signal Name | I/O | Signal Description                               | Voltages at NTSC Signal Input                               |
|-----|-------------|-----|--------------------------------------------------|-------------------------------------------------------------|
| 1   | STB3V       | O   | +3.3V power supply                               | +3.3V DC                                                    |
| 2   | STBGND      | –   | GND                                              |                                                             |
| 3   | REM         | I   | Remote control code signal input                 | 0-3.3V amplitude square wave (at remocon code transmission) |
| 4   | STB+3V      | O   | +3.3V power supply                               | +3.3V DC                                                    |
| 5   | KEY         | I   | Function key code signal input at the panel side | 0-3.3V amplitude square wave (at key operation)             |
| 6   | STBGND      | –   | GND                                              |                                                             |

### CN4801 (SW1) < ⇔ KEY CONTROL ASSY >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|-----|-------------|-----|--------------------|-------------------------------|
| 1   | STBGND      | –   | GND                | 0V DC                         |
| 2   | G1          | O   | Key scan signal    | 0V DC                         |
| 3   | G0          | O   | Key scan signal    | 0V DC                         |
| 4   | D5          | I   | Key scan signal    | +3.3V DC                      |
| 5   | D6          | I   | Key scan signal    | +3.3V DC                      |
| 6   | D7          | I   | Key scan signal    | +3.3V DC                      |

## • Voltages

### CN4004 (R4) < ⇄ DIGITAL VIDEO ASSY > (1/2)

| No. | Signal Name | I/O | Signal Description                           | Voltages at NTSC Signal Input                    |
|-----|-------------|-----|----------------------------------------------|--------------------------------------------------|
| 1   | GND         | –   | GND                                          |                                                  |
| 2   | GND         | –   | GND                                          |                                                  |
| 3   |             |     | Not connected                                | –                                                |
| 4   |             |     | Not connected                                | –                                                |
| 5   | BA0         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 6   | BA1         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 7   | BA2         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 8   | BA3         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 9   | BA4         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 10  | BA5         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 11  | BA6         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 12  | BA7         | O   | 8bit video signal output (BLUE even number)  | 0-3.3V amplitude square wave                     |
| 13  | GND         | –   | GND                                          |                                                  |
| 14  | GND         | –   | GND                                          |                                                  |
| 15  |             |     | Not connected                                | –                                                |
| 16  |             |     | Not connected                                | –                                                |
| 17  | GA0         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 18  | GA1         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 19  | GA2         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 20  | GA3         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 21  | GA4         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 22  | GA5         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 23  | GA6         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 24  | GA7         | O   | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave                     |
| 25  | GND         | –   | GND                                          |                                                  |
| 26  | GND         | –   | GND                                          |                                                  |
| 27  |             |     | Not connected                                | –                                                |
| 28  |             |     | Not connected                                | –                                                |
| 29  | RA0         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 30  | RA1         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 31  | RA2         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 32  | RA3         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 33  | RA4         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 34  | RA5         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 35  | RA6         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 36  | RA7         | O   | 8bit video signal output (RED even number)   | 0-3.3V amplitude square wave                     |
| 37  | GND         | –   | GND                                          |                                                  |
| 38  | DCLK        | O   | Synchronous signal output (clock)            | 0-3.3V amplitude square wave (42.5MHz)           |
| 39  | GND         | –   | GND                                          |                                                  |
| 40  | DEI         | O   | Synchronous signal output (data enable)      | 0-3.3V amplitude square wave (positive polarity) |
| 41  | HDI         | O   | Synchronous signal output (Horizontal sync.) | 0-3.3V amplitude square wave (negative polarity) |
| 42  | VDI         | O   | Synchronous signal output (Vertical sync.)   | 0-3.3V amplitude square wave (negative polarity) |
| 43  | FIELD       | O   | FIELD control signal                         | 0V DC                                            |
| 44  | APL_DT      |     | Not connected                                | –                                                |
| 45  |             |     | Not connected                                | –                                                |
| 46  |             |     | Not connected                                | –                                                |
| 47  | BB0         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 48  | BB1         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 49  | BB2         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 50  | BB3         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 51  | BB4         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 52  | BB5         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 53  | BB6         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 54  | BB7         | O   | 8bit video signal output (BLUE odd number)   | 0-3.3V amplitude square wave                     |
| 55  | GND         | –   | GND                                          |                                                  |
| 56  | GND         | –   | GND                                          |                                                  |
| 57  |             |     | Not connected                                | –                                                |
| 58  |             |     | Not connected                                | –                                                |

## • Voltages

### ■ A CN4004 (R4) < ⇄ DIGITAL VIDEO ASSY > (2/2)

| No. | Signal Name | I/O | Signal Description                                                                | Voltages at NTSC Signal Input                               |
|-----|-------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------|
| 59  | GB0         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 60  | GB1         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 61  | GB2         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 62  | GB3         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 63  | GB4         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 64  | GB5         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 65  | GB6         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 66  | GB7         | O   | 8bit video signal output (GREEN odd number)                                       | 0-3.3V amplitude square wave                                |
| 67  | GND         | —   | GND                                                                               |                                                             |
| 68  | GND         | —   | GND                                                                               |                                                             |
| 69  |             |     | Not connected                                                                     | —                                                           |
| 70  |             |     | Not connected                                                                     | —                                                           |
| 71  | RB0         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 72  | RB1         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 73  | RB2         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 74  | RB3         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 75  | RB4         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 76  | RB5         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 77  | RB6         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 78  | RB7         | O   | 8bit video signal output (RED odd number)                                         | 0-3.3V amplitude square wave                                |
| 79  | GND         | —   | GND                                                                               |                                                             |
| 80  | MASK        |     | Not connected                                                                     | —                                                           |
| 81  | MODE        |     | Not connected                                                                     | —                                                           |
| 82  | MODEL       |     | Not connected                                                                     | —                                                           |
| 83  | DITHER      |     | Not connected                                                                     | —                                                           |
| 84  | V+3VACTV    | O   | Power supply +3.3V output of module UCOM at panel side                            | +3.3VDC                                                     |
| 85  | B_SDA       | I   | E2PROM control signal for backup                                                  | 0-3.3V amplitude square wave                                |
| 86  | RXD0        | O   | UART communication receive data with the main UCOM (external PC) at MDR side      | 0-3.3V amplitude square wave                                |
| 87  | REM_B       | O   | Remote control code signal output                                                 | 0-3.3V amplitude square wave (at remocon code transmission) |
| 88  | TXD0        | I   | UART communication transmission data with the main UCOM (external PC) at MDR side | 0-3.3V amplitude square wave                                |
| 89  | KEY_B       | O   | Function key code signal output at panel side                                     | 0-3.3V amplitude square wave (at key operation)             |
| 90  | REQ_MD      | I   | Communication request to the main UCOM (external PC) at MDR side                  | 0-3.3V amplitude square wave                                |
| 91  | LED_R_B     | I   | LED control (red)                                                                 | +3.3VDC                                                     |
| 92  | MR_AC_OFF   | O   | AC state output at MR side                                                        | 0VDC                                                        |
| 93  | LED_G_B     | I   | LED control (green)                                                               | 0VDC                                                        |
| 94  | POWER       |     | Not connected                                                                     | —                                                           |
| 95  | DVI_MUTE    | I   | DVI mute signal input                                                             | 0VDC                                                        |
| 96  | MR_ST_B     | O   | Connection state detecting signal with MDR                                        | 0VDC                                                        |
| 97  | A_MUTE      | I   | Audio mute signal input                                                           | 0VDC                                                        |
| 98  | OP_DET      | O   | Rear case open detecting signal                                                   | 0VDC                                                        |
| 99  | A_NG        | O   | Abnormal detecting signal of audio block                                          | +3.3VDC                                                     |
| 100 | PNL_MUTE    |     | Not connected                                                                     | —                                                           |
| 101 | A_SCL       | I   | I2C control signal for audio                                                      | 0-3.3V amplitude square wave                                |
| 102 | STB_SW      | I   | Standby signal of audio block                                                     | +3.3VDC                                                     |
| 103 | A_SDA       | I   | I2C control signal for audio                                                      | 0-3.3V amplitude square wave                                |
| 104 | DDC_WP      | I   | EDID E2PROM writing inhibit signal                                                | 0VDC                                                        |
| 105 | TRUBASS     | I   | TRUBASS function control signal                                                   | +3.3VDC                                                     |
| 106 | B_SCL       | I   | E2PROM control signal for backup                                                  | 0-3.3V amplitude square wave                                |
| 107 | FOCUS       | I   | FOCUS function control signal                                                     | +3.3VDC                                                     |
| 108 | DVI_OFF     | O   | Connection detecting signal of DVI connector                                      | 0VDC                                                        |
| 109 | SRS         | I   | SRS function control signal                                                       | +3.3VDC                                                     |
| 110 | RSTBTMD     | O   | TMDS IC reset signal                                                              | +3.3VDC                                                     |
| 111 | MAX_PLS1    |     | Not connected                                                                     | —                                                           |
| 112 | L_SYNC      | O   | TMDS IC synchronous detecting signal                                              | +3.3VDC                                                     |
| 113 | MAX_PLS2    |     | Not connected                                                                     | —                                                           |
| 114 | GND         | —   |                                                                                   |                                                             |

- **Block Diagram**



• Voltages

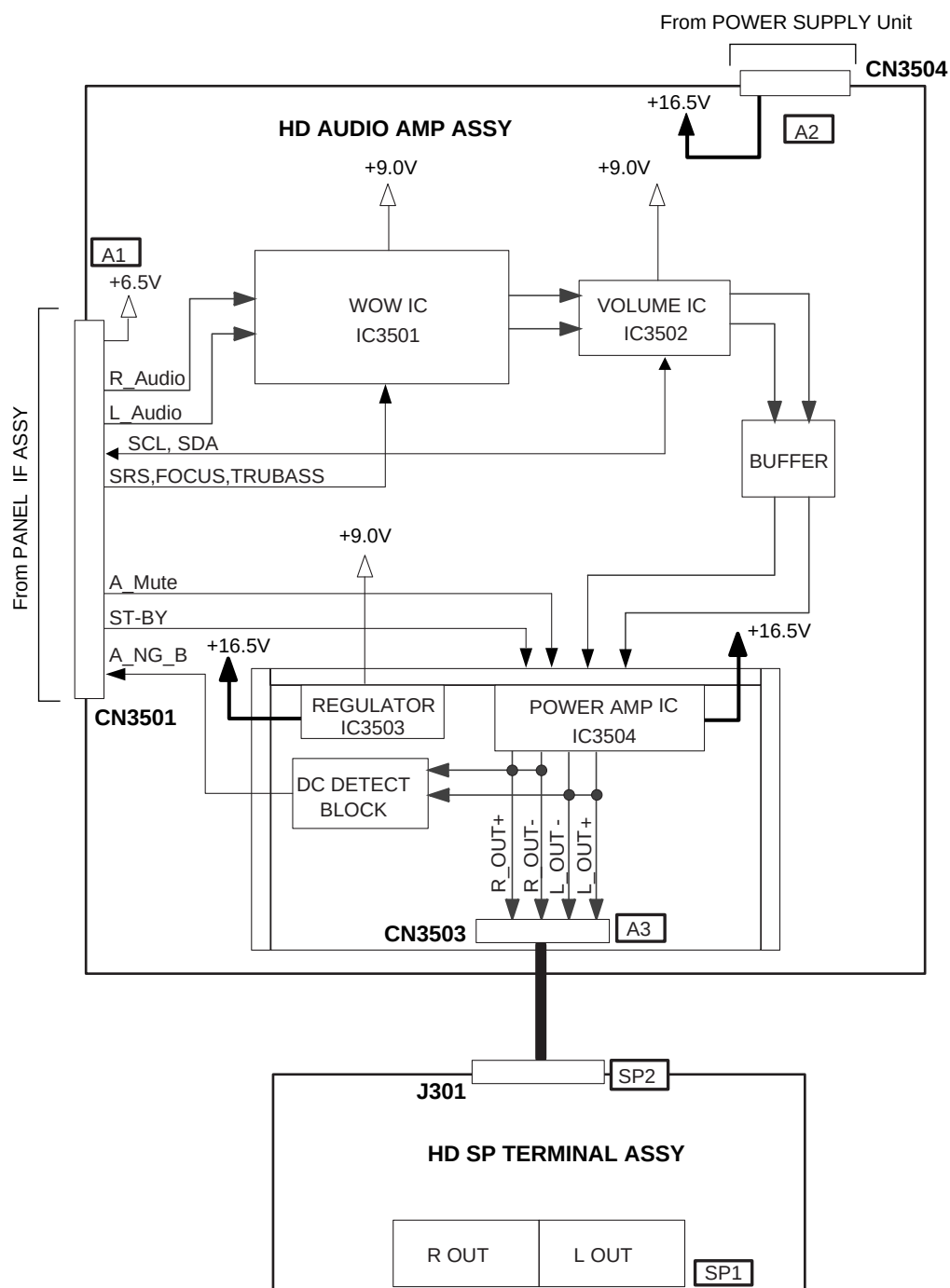
CN5601 (D1)

| No. | Signal Name | I/O | Signal Description                                 | Voltages at NTSC Signal Input |
|-----|-------------|-----|----------------------------------------------------|-------------------------------|
| 1   | +12V        | I   | +12V power input                                   | +12VDC                        |
| 2   | +12V        | I   | +12V power input                                   | +12VDC                        |
| 3   | GND_D       | –   | GND                                                |                               |
| 4   | GND_D       | –   | GND                                                |                               |
| 5   | PD          | O   | Power down signal                                  | 0VDC                          |
| 6   | VSUS_ADJ    | O   | VSUS adjustment signal                             |                               |
| 7   | PS_PD       | I   | Power-down detecting signal of POWER SUPPLY block  | 0VDC                          |
| 8   | RELAY       | O   | Relay control signal                               | +3.3VDC                       |
| 9   | DRF         | O   | Drive control signal                               | 0VDC                          |
| 10  | AC_DET      | I   | Primary side power (AC) state output at panel side | +3.0VDC                       |
| 11  | PD_TRIGGER  | I   | Power down trigger                                 | +3.3VDC                       |

CN5602 (D2)

| No. | Signal Name | I/O | Signal Description               | Voltages at NTSC Signal Input |
|-----|-------------|-----|----------------------------------|-------------------------------|
| 1   | VADR        | I   | Address drive power (+61V) input | +61VDC                        |
| 2   | VADR        | I   | Address drive power (+61V) input | +61VDC                        |
| 3   | N.C         |     | Not connected                    |                               |
| 4   | GND_ADR     | –   | GND                              |                               |
| 5   | GND_ADR     | –   | GND                              |                               |
| 6   | +6.5V       | I   | +6.5V power input                | +6.8VDC                       |
| 7   | GND_D       | –   | GND                              |                               |

### 3.1.6 HD AUDIO AMP ASSY



## 3.2 WAVEFORMS

### DIGITAL VIDEO ASSY

① CH1: K5003 (VD)  
CH2: K5002 (HD)  
V: 2V/div. H: 2msec/div.



③ CH1: K5002 (HD)  
CH2: K5004 (DE)  
V: 2V/div. H: 2μsec/div.



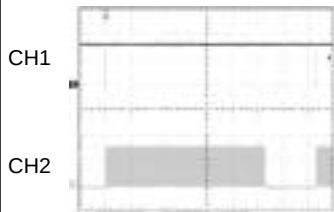
① CH1: K5003 (VD)  
CH2: K5002 (HD)  
V: 2V/div. H: 4μsec/div.



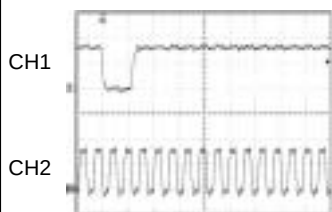
③ CH1: K5002 (HD)  
CH2: K5004 (DE)  
V: 2V/div. H: 40nsec/div.



② CH1: K5003 (VD)  
CH2: K5004 (DE)  
V: 2V/div. H: 2msec/div.



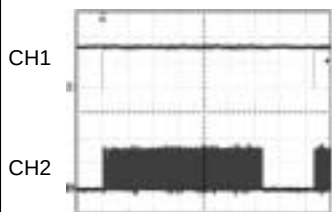
④ CH1: K5002 (HD)  
CH2: CN5001-pin 77 (DCLK)  
V: 2V/div. H: 40nsec/div.



② CH1: K5003 (VD)  
CH2: K5004 (DE)  
V: 2V/div. H: 4μsec/div.

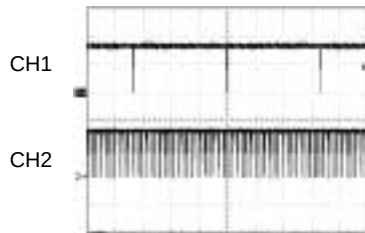


⑤ CH1: K5003 (VD)  
CH2: CN5001-pin 88 (RA\_IN2)  
V: 2V/div. H: 2msec/div.

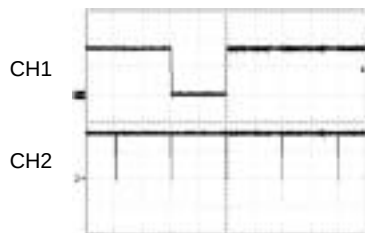


## PANEL IF ASSY

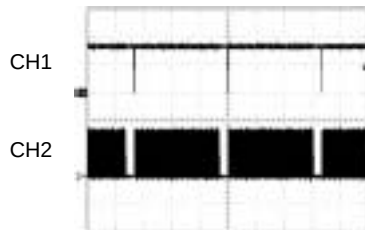
- ① CH1: K4005 (VDI)  
CH2: K4006 (HDI)  
V: 2V/div. H: 5msec/div.



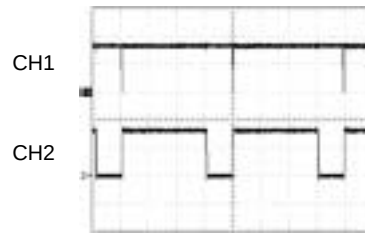
- ① CH1: K4005 (VDI)  
CH2: K4006 (HDI)  
V: 2V/div. H: 10μsec/div.



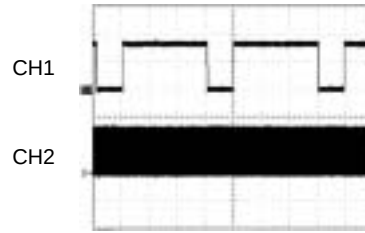
- ② CH1: K4005 (VDI)  
CH2: CN4004-pin 29 (RAO)  
V: 2V/div. H: 5msec/div.



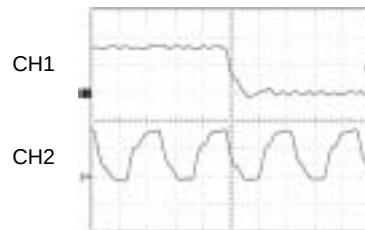
- ③ CH1: K4006 (HDI)  
CH2: K4003 (DEI)  
V: 2V/div. H: 5μsec/div.



- ④ CH1: K4003 (DEI)  
CH2: K4002 (DCLK)  
V: 2V/div. H: 5μsec/div.



- ④ CH1: K4003 (DEI)  
CH2: K4002 (DCLK)  
V: 2V/div. H: 10nsec/div.

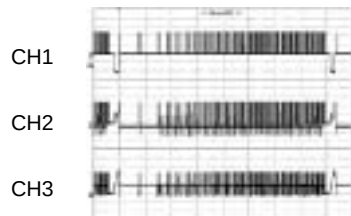


## 50 X DRIVE ASSY, 50 Y DRIVE ASSY and 50 SCAN A ASSY

### ● Drive Output Waveform (1 field,color-bar)

CH1: R1226 (XPSUS) - K1201 (SUSGND)  
(50 X DRIVE ASSY)  
CH2: R2348 (YPSUS) - K2301 (SUSGND)  
(50 Y DRIVE ASSY)  
CH3: K3001 (Scan OUT) - K2301 (SUSGND)  
(50 SCAN A ASSY)

V: 100V/div. H: 2msec/div.



### ● Control Signal (Sustain Waveform Gen.)

CH2: K2016 (YSUS-G) - K2010 (DGND)  
CH3: K2025 (YSUS-U1) - K2010 (DGND)  
CH4: K2022 (YSUS-U2) - K2010 (DGND)  
CH5: K2026 (YSUS-B) - K2010 (DGND)  
CH6: K2024 (YSUS-D2) - K2010 (DGND)  
CH7: K2027 (YSUS-D1) - K2010 (DGND)  
(50 Y DRIVE ASSY)

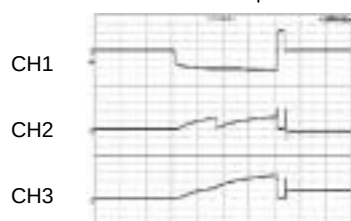
V: 1V/div. H: 500nsec/div.



### ● Reset Pulse

CH1: R1226 (XPSUS) - K1201 (SUSGND)  
(50 X DRIVE ASSY)  
CH2: R2348 (YPSUS) - K2301 (SUSGND)  
(50 Y DRIVE ASSY)  
CH3: K3001 (Scan OUT) - K2301 (SUSGND)  
(50 SCAN A ASSY)

V: 100V/div. H: 100μsec/div.



### ● Scan Control Signal (1 field, color-bar)

CH2: K2006 (SI) - K2029 (DGND)  
CH3: K2009 (OC1) - K2029 (DGND)  
CH4: K2004 (OC2) - K2029 (DGND)  
CH5: K2007 (CLR) - K2029 (DGND)  
CH6: K2003 (CLK2) - K2029 (DGND)  
CH7: K2008 (LE) - K2029 (DGND)  
(50 Y DRIVE ASSY)

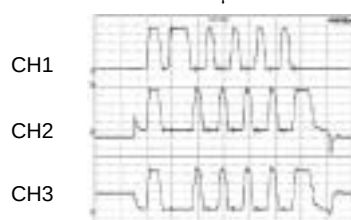
V: 1V/div. H: 2msec/div.



### ● Sustain Pulse (1 sub-sub-field)

CH1: R1226 (XPSUS) - K1201 (SUSGND)  
(50 X DRIVE ASSY)  
CH2: R2348 (YPSUS) - K2301 (SUSGND)  
(50 Y DRIVE ASSY)  
CH3: K3001 (Scan OUT) - K2301 (SUSGND)  
(50 SCAN A ASSY)

V: 50V/div. H: 5μsec/div.



### ● X Drive Pulse Control Signal (color-bar)

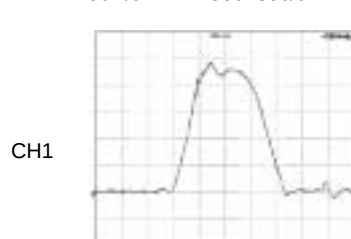
CH1: R1226 (XPSUS) - K2301 (SUSGND)  
V: 100V/div. H: 2msec/div.  
CH2: K1016 (XCP-MSK) - K1020 (DGND)  
CH3: K1015 (XSUS-MSK) - K1020 (DGND)  
CH4: K1014 (XNR-D) - K1020 (DGND)  
V: 1V/div. H: 2msec/div.  
(50 X DRIVE ASSY)



### ● Sustain Waveform

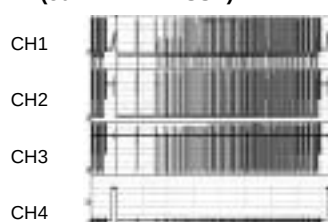
CH1: R2348 (YPSUS) - K2301 (SUSGND)  
(50 Y DRIVE ASSY)

V: 50V/div. H: 500nsec/div.



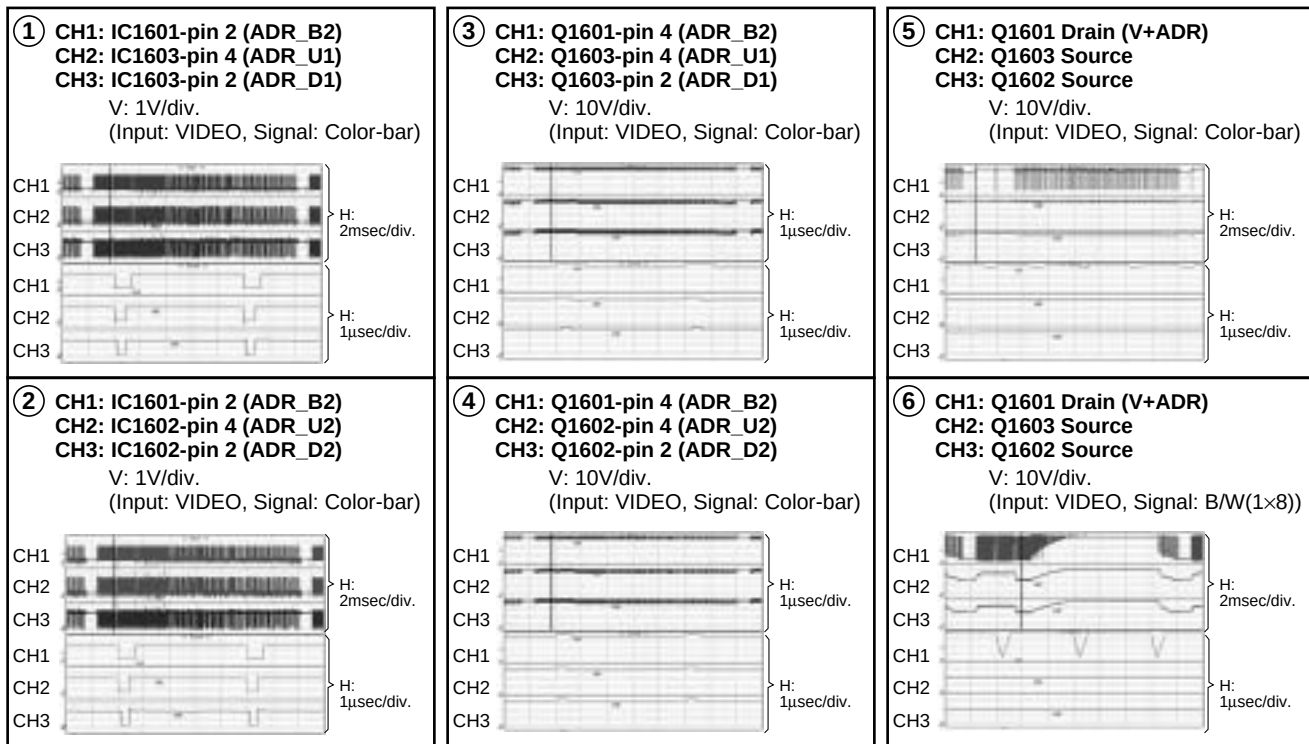
### ● Y Drive Pulse Control Signal (color-bar)

CH1: R2348 (YPSUS) - K2301 (SUSGND)  
V: 50V/div. H: 2msec/div.  
CH2: K2015 (YSUS-MSK) - K2010 (DGND)  
CH3: K2017 (YSOFT-D) - K2010 (DGND)  
CH4: K2023 (YPR-U) - K2010 (DGND)  
V: 1V/div. H: 2msec/div.  
(50 Y DRIVE ASSY)



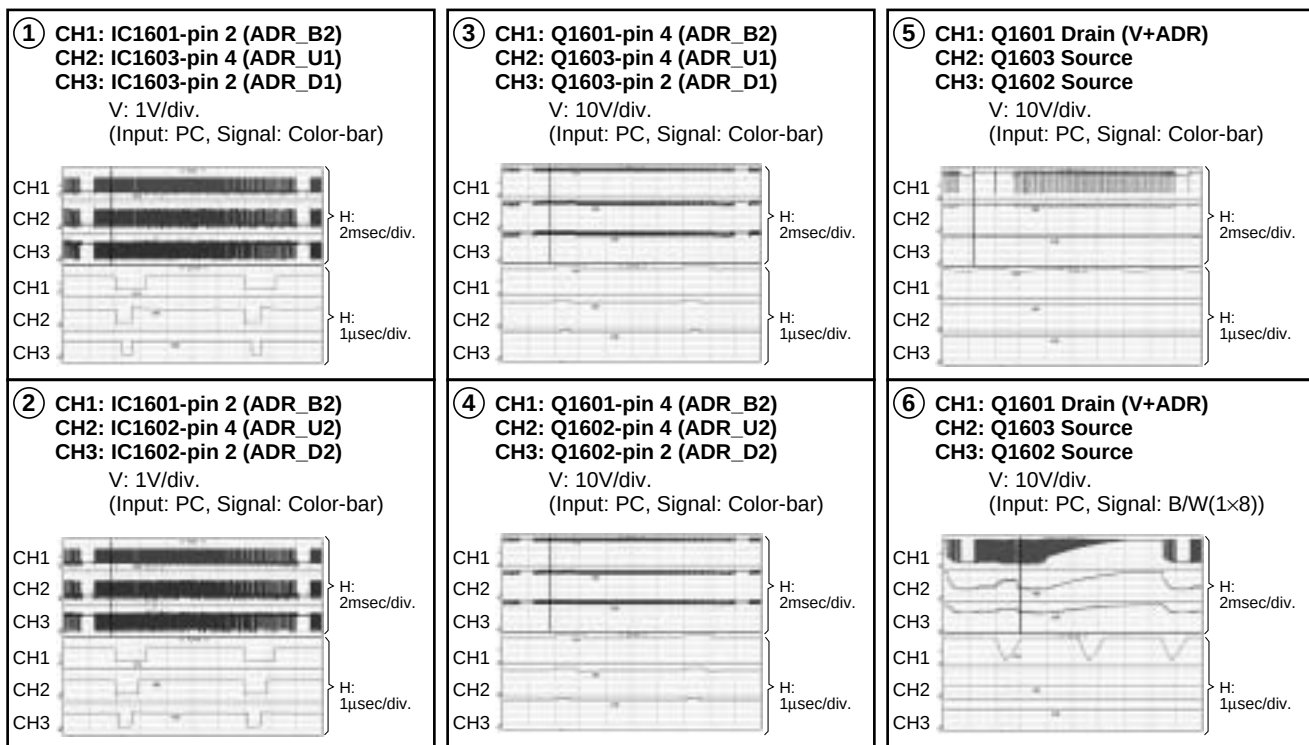
## 50 ADDRESS ASSY

### • ADR RESONANCE BLOCK (VIDEO)



## 50 ADDRESS ASSY

### • ADR RESONANCE BLOCK (PC)

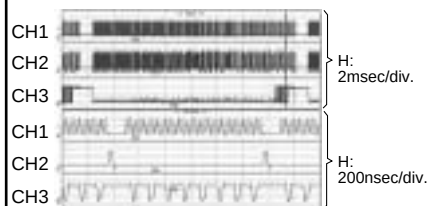


A

## 50 ADDRESS ASSY

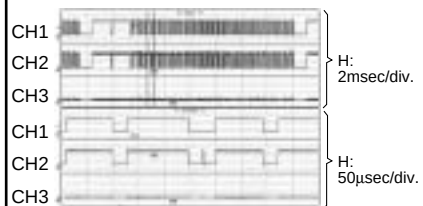
### • ADR LOGIC BLOCK

① CH1: IC1553-pin 18 (CLK input)  
CH2: IC1553-pin 16 (LE input)  
CH3: IC1553-pin 9 (DATA input)  
V: 1V/div.  
(Input: VIDEO, Signal: Color-bar)



B

② CH1: IC1553-pin 23 (HBLK input)  
CH2: IC1553-pin 19 (LCLK input)  
CH3: IC1553-pin 25 (HZ input)  
V: 1V/div.  
(Input: VIDEO, Signal: Color-bar)



C

D

E

F

## 5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560  $\Omega$   $\rightarrow$  56  $\times 10^1$   $\rightarrow$  561 ..... RD1/4PU  $\overline{561}$  J

47k  $\Omega$   $\rightarrow$  47  $\times 10^3$   $\rightarrow$  473 ..... RD1/4PU  $\overline{473}$  J

0.5  $\Omega$   $\rightarrow$  R50 ..... RN2H  $\overline{R50}$  K

1  $\Omega$   $\rightarrow$  1R0 ..... RS1P  $\overline{1R0}$  K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k  $\Omega$   $\rightarrow$  562  $\times 10^1$   $\rightarrow$  5621 ..... RN1/4PC  $\overline{5621}$  F

### Mark No. Description Part No.

#### LIST OF ASSEMBLIES

|          |                        |         |
|----------|------------------------|---------|
| NSP      | 1..50 ADDRESS ASSY     | AWV2069 |
| NSP      | 2..50 ADDRESS ASSY     | AWZ6839 |
| NSP      | 1..50 SCAN FUKUGO ASSY | AWV2036 |
| NSP      | 2..50 SCAN A ASSY      | AWZ6809 |
| NSP      | 2..50 SCAN B ASSY      | AWZ6810 |
| NSP      | 2..X CONNECTOR A ASSY  | AWZ6811 |
| NSP      | 2..X CONNECTOR B ASSY  | AWZ6812 |
| NSP      | 1..HD FUKUGO ASSY      | AWV2017 |
|          | 2..PANEL IF ASSY       | AWZ6786 |
|          | 2..PANEL LED ASSY      | AWZ6787 |
|          | 2..PANEL KEY ASSY      | AWZ6788 |
|          | 2..KEY CONTROL ASSY    | AWZ6789 |
|          | 2..PANEL IR ASSY       | AWZ6790 |
|          | 1..DIGITAL VIDEO ASSY  | AWV2070 |
| NSP      | 1..HD AUDIO ASSY       | AWV2019 |
|          | 2..HD SP TERMINAL ASSY | AWZ6792 |
|          | 2..HD AUDIO AMP ASSY   | AWZ6834 |
| NSP      | 1..50 X DRIVE ASSY     | AWV2034 |
|          | 2..50 X DRIVE ASSY     | AWZ6808 |
|          | 2..PANEL SENSOR ASSY   | AWZ6795 |
|          | 1..50 Y DRIVE ASSY     | AWV2035 |
| $\Delta$ | 1..POWER SUPPLY UNIT   | AXY1068 |

### Mark No. Description Part No.

#### 50 ADDRESS ASSY

##### [ADR LOGIC BLOCK] SEMICONDUCTORS

IC1501 PEE001B

##### COILS AND FILTERS

F1501-F1503 ATF1194

##### CAPACITORS

C1553,C1556,C1559,C1560,C1563 (330p/100V) ACG1105  
C1501,C1502 (47/6.3V) ACH1357  
C1503-C1507,C1152,C1555 CKSSYF104Z16  
C1558,C1561,C1564 CKSSYF104Z16

##### RESISTORS

R1510,R1519,R1522,R1526 RAB4C470J  
R1505-R1509 RS1/16SS1000F  
R1513-R1518 RS1/16SS470J  
Other Resistors RS1/16S###J

##### OTHERS

CN1501 40P FFC CONNECTOR AKM1215

##### [ADR RESONANCE BLOCK] SEMICONDUCTORS

IC1601-IC1603 TND304S  
Q1604 2SA1163  
Q1601 HAT1081R  
Q1602,Q1603 HAT3019R  
D1601 1SS302

D1608,D1609,D1617,D1618 EC10UA20  
D1610,D1611,D1616,D1619,D1620 EC11FS2  
D1604,D1612 MA126  
D1602,D1606,D1607,D1614,D1615 UDZS15B  
D1621,D1622 UDZS24B

##### COILS AND FILTERS

L1601,L1602 ATH1135

##### CAPACITORS

C1609,C1615 (0.47/100V) ACE1171  
C1605,C1607,C1608,C1613,C1614 (0.01/100V) ACG1101  
C1601,C1602 (56/80V) ACH1405  
C1618 (47/6.3V) ACH1357

C1603 (47/16V) ACH1391  
C1604,C1606,C1612 CKSSYF104Z16

**Mark No.**      **Description**      **Part No.**

### **RESISTORS**

R1631 (10,1/2W)  
R1632  
R1633  
Other Resistors

ACN1174  
RS1/16S1502F  
RS1/16S1202F  
RS1/16S###J

## **50 SCAN A ASSY**

### **SEMICONDUCTORS**

IC3001-IC3006  
D3001

AN16003A-K  
KU10N16

### **CAPACITORS**

C3001,C3002,C3012,C3013  
(0.1/250V)  
C3023,C3024,C3034,C3035  
(0.1/250V)  
C3045,C3046,C3056,C3057  
(0.1/250V)

ACG1088

ACG1088

ACG1088

C3005,C3008,C3016,C3019,C3026  
C3029,C3037,C3040,C3048,C3051  
C3060,C3063  
C3004  
C3007,C3018,C3033,C3044,C3050

CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH151J50  
CCSRCH181J50

C3062  
C3006,C3011,C3017,C3022  
C3031,C3032,C3042,C3043,C3049  
C3055,C3061,C3066  
C3009,C3010,C3020,C3021,C3028

CCSRCH181J50  
CCSRCH331J50  
CCSRCH331J50  
CCSRCH331J50  
CCSRCH390J50

C3030,C3039,C3041,C3053,C3054  
C3064,C3065  
C3003,C3014,C3025,C3036,C3047  
C3058

CCSRCH390J50  
CCSRCH390J50  
CKSRYB105K6R3  
CKSRYB105K6R3

### **RESISTORS**

R3003,R3011,R3017,R3025,R3030  
R3036  
Other Resistors

RAB4C221J  
RAB4C221J  
RS1/16S###J

### **OTHERS**

CN3001 15P CONNECTOR  
K3001,K3004,K3009,K3015,K3017  
TEST PIN  
K3019,K3021 TEST PIN

AKP1218  
AKX9002  
AKX9002

## **50 SCAN B ASSY**

### **SEMICONDUCTORS**

IC3201-IC3206  
D3201

AN16003A-K  
KU10N16

### **CAPACITORS**

C3201,C3211,C3212,C3222,C3223  
(0.1/250V)  
C3233,C3234,C3244,C3245  
(0.1/250V)  
C3255,C3256,C3266  
(0.1/250V)

ACG1088

ACG1088

ACG1088

C3203,C3204,C3214,C3215,C3226  
C3228,C3237,C3239,C3247,C3251  
C3258,C3259  
C3258,C3259  
C3262

CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH151J50

**Mark No.**      **Description**      **Part No.**

C3261  
C3205,C3210,C3216,C3221  
C3230,C3231,C3241,C3242,C3248  
C3254,C3260,C3265  
C3208,C3209,C3219,C3220,C3227  
C3229,C3238,C3240,C3252,C3253

CCSRCH181J50  
CCSRCH331J50  
CCSRCH331J50  
CCSRCH331J50  
CCSRCH390J50  
CCSRCH390J50

C3263,C3264  
C3202,C3213,C3224,C3235,C3246  
C3257

CCSRCH390J50  
CKSRYB105K6R3  
CKSRYB105K6R3

### **RESISTORS**

R3202,R3210,R3216,R3224,R3229  
R3235  
Other Resistors

RAB4C221J  
RAB4C221J  
RS1/16S###J

### **OTHERS**

CN3201 15P CONNECTOR  
K3203,K3208,K3214,K3216,K3218  
TEST PIN  
K3220,K3221 TEST PIN

AKP1218  
AKX9002  
AKX9002

## **X CONNECTOR A ASSY**

This assembly has no service part.

## **X CONNECTOR B ASSY**

This assembly has no service part.

## **PANEL IF ASSY**

### **[PANEL IF BLOCK]** **SEMICONDUCTORS**

IC4002  
⚠ IC4003  
IC4006  
Q4007  
Q4004,Q4008,Q4009,Q4012

24LC02B(I)SN  
PQ033EZ01ZP  
TC74VHC541FT  
DTA143EUA  
DTC143EUA

Q4014-Q4016  
Q4005,Q4006,Q4010,Q4013,Q4017  
Q4011  
Q4001  
D4006

DTC143EUA  
RN1901  
RN2901  
SM6K2  
1SS355

D4001-D4004,D4007  
⚠ D4005

RB751V-40  
UDZS5.1B

### **COILS AND FILTERS**

F4001,F4002  
L4001

ATF1194  
LCTAW221J3225

### **CAPACITORS**

C4005,C4006  
C4019  
C4009,C4020  
C4011,C4018,C4021  
C4003,C4015

CCSRCH100D50  
CCSRCH101J50  
CCSRCH471J50  
CEAT101M10  
CEAT101M16

C4004,C4010,C4012,C4014  
C4016,C4024,C4041  
C4017

CKSRYB103K50  
CKSSYF104Z16  
CKSRYF105Z10

### **RESISTORS**

| Mark No.      | Description        | Part No.     |
|---------------|--------------------|--------------|
| R4006         | Other Resistors    | RAB4C101J    |
|               |                    | RS1/16S####J |
| <b>OTHERS</b> |                    |              |
| CN4004        | 114P FFC CONNECTOR | AKM1216      |
| CN4003        | DVI SOCKET (24P)   | AKP1216      |
| CN4002        | SOCKET (20P)       | AKP1226      |
| K4002-K4012   | TEST PIN           | AKX9002      |
| CN4006        | 3P TOP POST        | B3B-EH       |

#### [TMD5 RX BLOCK] SEMICONDUCTORS

|             |              |
|-------------|--------------|
| IC4201      | 24LC01B      |
| IC4206      | BA8274F      |
| IC4205      | PST3628UR    |
| IC4202      | SI1169CTG100 |
| Q4203       | DTC143EUA    |
| Q4215       | SM6K2        |
| D4203,D4204 | 1SS355       |
| D4202       | UDZS6.8B     |

#### COILS AND FILTERS

|             |         |
|-------------|---------|
| F4201-F4204 | ATF1194 |
| L4201       | ATH1132 |

#### CAPACITORS

|                               |              |
|-------------------------------|--------------|
| C4208,C4215,C4218,C4222,C4230 | CCSRCH331J50 |
| C4262                         | CCSRCH471J50 |
| C4207,C4210,C4232,C4233,C4236 | CCSRCH820J50 |
| C4241,C4244,C4258             | CCSRCH820J50 |
| C4212,C4239,C4242,C4246       | CEAT101M10   |
| C4202,C4237,C4238             | CEAT470M10   |
| C4260                         | CKSRYB472K50 |
| C4205,C4206,C4217,C4267       | CKSRYF105Z10 |
| C4203,C4204,C4209,C4211,C4213 | CKSSYF104Z16 |
| C4234,C4235,C4240,C4243,C4245 | CKSSYF104Z16 |
| C4247,C4252,C4256,C4259,C4261 | CKSSYF104Z16 |
| C4271                         | CKSSYF104Z16 |

#### RESISTORS

|                         |              |
|-------------------------|--------------|
| R4241                   | RAB4C220J    |
| R4213-R4218,R4245,R4247 | RAB4C470J    |
| R4253-R4255,R4257       | RAB4C470J    |
| R4250                   | RS1/16S3900F |
| Other Resistors         | RS1/16S####J |

#### OTHERS

|                      |         |
|----------------------|---------|
| K4203,K4207 TEST PIN | AKX9002 |
|----------------------|---------|

#### PANEL LED ASSY SEMICONDUCTORS

|       |           |
|-------|-----------|
| D4751 | SML-310MT |
| D4752 | SML-311UT |

#### CAPACITORS

|               |              |
|---------------|--------------|
| ⚠ C4751-C4753 | CCSRCH101J50 |
|---------------|--------------|

#### OTHERS

|                     |            |
|---------------------|------------|
| CN4751 CONNECTOR 3P | B3B-ZR-3.4 |
|---------------------|------------|

| Mark No.    | Description                                   | Part No. |
|-------------|-----------------------------------------------|----------|
|             | <b>PANEL KEY ASSY<br/>SWITCHES AND RELAYS</b> |          |
| S4801-S4806 |                                               | VSG1024  |

#### OTHERS

|                         |         |
|-------------------------|---------|
| CN4801 6P FFC CONNECTOR | AKM1208 |
|-------------------------|---------|

#### KEY CONTROL ASSY SEMICONDUCTORS

|                         |         |
|-------------------------|---------|
| IC4851                  | PD5719A |
| D4851-D4853,D4855,D4856 | 1SS302  |

#### CAPACITORS

|               |              |
|---------------|--------------|
| ⚠ C4856-C4858 | CCSRCH101J50 |
| C4854         | CEAT470M50   |
| C4853         | CKSRYB103K50 |

#### RESISTORS

|                 |              |
|-----------------|--------------|
| R4858           | RAB4C182J    |
| Other Resistors | RS1/16S####J |

#### OTHERS

|                         |         |
|-------------------------|---------|
| ⚠ X4851 CERALOCK        | ASS1162 |
| CN4851 6P FFC CONNECTOR | VKN1596 |

#### PANEL IR ASSY SEMICONDUCTORS

|       |         |
|-------|---------|
| Q4901 | 2SC4116 |
| D4902 | 1SS302  |
| D4901 | 1SS355  |

#### CAPACITORS

|       |              |
|-------|--------------|
| C4901 | CEVW470M6R3  |
| C4903 | CKSRYB102K50 |
| C4902 | CKSRYB103K50 |
| C4904 | CKSSYF104Z16 |

#### RESISTORS

|                 |              |
|-----------------|--------------|
| Other Resistors | RS1/16S####J |
|-----------------|--------------|

#### OTHERS

|                            |            |
|----------------------------|------------|
| U4901 REMOTE RECEIVER UNIT | RPM7240-H4 |
|----------------------------|------------|

#### DIGITAL VIDEO ASSY [DIGITAL IF BLOCK] COILS AND FILTERS

|                   |         |
|-------------------|---------|
| F5001,F5002,F5004 | ATF1194 |
|-------------------|---------|

#### RESISTORS

|                   |              |
|-------------------|--------------|
| R5101-R5115,R5131 | RAB4C470J    |
| Other Resistors   | RS1/16S####J |

#### OTHERS

|                            |             |
|----------------------------|-------------|
| CN5001 114P FFC CONNECTOR  | AKM1216     |
| K5002-K5004,K5007 TEST PIN | AKX9002     |
| CN5002 10P CONNECTOR       | B10B-PH-SM3 |

| Mark No.                          | Description                                                                                                      | Part No.                                                                                 |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>[MODULE UCOM BLOCK]</b>        |                                                                                                                  |                                                                                          |
| <b><u>SEMICONDUCTORS</u></b>      |                                                                                                                  |                                                                                          |
| A                                 | IC5206<br>IC5201<br>IC5205<br>IC5208<br>IC5213                                                                   | 24LC04B(I)SN<br>M30626FHPGP-P<br>PST3628UR<br>TC74VHC08FT<br>TC74VHC123AFT               |
|                                   | IC5214,IC5215<br>IC5211,IC5212<br>IC5209<br>Q5201<br>D5207-D5212                                                 | TC74VHC32FT<br>TC74VHC541FT<br>TC7W126FU<br>2SJ461A<br>1SS301                            |
| B                                 | D5217,D5218<br>D5201                                                                                             | 1SS355<br>SML-310LT                                                                      |
| <b><u>SWITCHES AND RELAYS</u></b> |                                                                                                                  |                                                                                          |
|                                   | S5201                                                                                                            | ASH1047                                                                                  |
| <b><u>CAPACITORS</u></b>          |                                                                                                                  |                                                                                          |
|                                   | C5213,C5225 (47/6.3V)<br>C5206,C5223,C5231<br>C5245-C5264<br>C5232<br>C5230<br>C5205                             | ACH1357<br>CKSRYB102K50<br>CKSRYB102K50<br>CKSRYB104K16<br>CKSRYB105K6R3<br>CKSRYB472K50 |
| C                                 | C5201-C5204,C5208,C5210-C5212<br>C5218,C5224,C5226,C5227<br>C5243,C5244                                          | CKSSYF104Z16<br>CKSSYF104Z16<br>CKSSYF104Z16                                             |
| <b><u>RESISTORS</u></b>           |                                                                                                                  |                                                                                          |
|                                   | R5209,R5211,R5212,R5235<br>R5254,R5255,R5265,R5266<br>R5205<br>R5270,R5271<br>R5256,R5257<br>Other Resistors     | RAB4C101J<br>RAB4C101J<br>RAB4C103J<br>RAB4C472J<br>RAB4C474J<br>RS1/16S####J            |
| D                                 | <b><u>OTHERS</u></b><br>CN5201 PLUG 8-P<br>K5201 TEST PIN<br>⚠ X5201 CERAMIC RESONATOR<br>CN5202 3P PH CONNECTOR | AKM1225<br>AKX9002<br>ASS1178<br>B3B-PH-SM3                                              |
| <b><u>[PANEL FLASH BLOCK]</u></b> |                                                                                                                  |                                                                                          |
| <b><u>SEMICONDUCTORS</u></b>      |                                                                                                                  |                                                                                          |
| E                                 | IC5305<br>IC5303<br>IC5301<br>IC5302<br>Q5301                                                                    | MBM29PL160BD-75PTFN<br>PST3612UR<br>PST3628UR<br>TC74VHC08FT<br>RN1901                   |
|                                   | D5301-D5310                                                                                                      | 1SS302                                                                                   |
| <b><u>CAPACITORS</u></b>          |                                                                                                                  |                                                                                          |
|                                   | C5320<br>C5304,C5307<br>C5311,C5314<br>C5303,C5306<br>C5301,C5302,C5305,C5309,C5313                              | CCSRCH470J50<br>CKSRYB102K50<br>CKSRYB104K16<br>CKSRYB472K50<br>CKSSYF104Z16             |
|                                   | C5316                                                                                                            | CKSSYF104Z16                                                                             |
| <b><u>RESISTORS</u></b>           |                                                                                                                  |                                                                                          |
| F                                 | R5317,R5318<br>Other Resistors                                                                                   | RAB4C101J<br>RS1/16S####J                                                                |

| Mark No.                             | Description                                                                                                | Part No.                                                            |
|--------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b><u>OTHERS</u></b>                 |                                                                                                            |                                                                     |
|                                      | CN5301 PLUG 15-P<br>K5301 TEST PIN<br>⚠ X5302 CRYSTAL OSCILLATOR<br>⚠ X5301 CRYSTAL OSCILLATOR             | AKM1232<br>AKX9002<br>ASS1174<br>ASS1176                            |
| <b><u>[IC4 BLOCK]</u></b>            |                                                                                                            |                                                                     |
| <b><u>SEMICONDUCTORS</u></b>         |                                                                                                            |                                                                     |
|                                      | IC5401<br>D5401<br>D5402                                                                                   | PD5856A<br>SML-310LT<br>SML-310MT                                   |
| <b><u>COILS AND FILTERS</u></b>      |                                                                                                            |                                                                     |
|                                      | F5401,F5403,F5409,F5410                                                                                    | ATF1194                                                             |
| <b><u>CAPACITORS</u></b>             |                                                                                                            |                                                                     |
|                                      | C5401,C5413,C5417,C5424<br>(100/6.3V)<br>C5434,C5435<br>C5402-C5412,C5414-C5416<br>C5418-C5423,C5425-C5431 | ACH1396<br><br>CKSRYB102K50<br>CKSSYF104Z16<br>CKSSYF104Z16         |
| <b><u>RESISTORS</u></b>              |                                                                                                            |                                                                     |
|                                      | R5406,R5421<br>R5408-R5413,R5415,R5416,R5419<br>R5422<br>R5405<br>Other Resistors                          | RAB4C101J<br>RAB4C220J<br>RAB4C220J<br>RS1/16S5601F<br>RS1/16S####J |
| <b><u>OTHERS</u></b>                 |                                                                                                            |                                                                     |
|                                      | K5401 TEST PIN                                                                                             | AKX9002                                                             |
| <b><u>[ADDRESS CN BLOCK]</u></b>     |                                                                                                            |                                                                     |
| <b><u>RESISTORS</u></b>              |                                                                                                            |                                                                     |
|                                      | Other Resistors                                                                                            | RS1/16S####J                                                        |
| <b><u>OTHERS</u></b>                 |                                                                                                            |                                                                     |
|                                      | CN5521 50P CONNECTOR<br>⚠ CN5501-CN5508 40P CONNECTOR<br>CN5511 30P FFC CONNECTOR                          | AKM1201<br>AKM1217<br>AKM1218                                       |
| <b><u>[DIGITAL DD CON BLOCK]</u></b> |                                                                                                            |                                                                     |
| <b><u>SEMICONDUCTORS</u></b>         |                                                                                                            |                                                                     |
|                                      | ⚠ IC5602<br>⚠ IC5603<br>⚠ U5601<br>Q5601,Q5603<br>Q5605                                                    | PQ05DZ11<br>PQ09DZ11<br>AXY1066<br>HN1C01FU<br>RN1901               |
|                                      | D5602,D5603,D5609,D5610<br>D5601<br>D5604                                                                  | 1SS355<br>HZU2.2B<br>UDZS5.1B                                       |
| <b><u>CAPACITORS</u></b>             |                                                                                                            |                                                                     |
|                                      | C5601,C5603,C5607,C5614,C5616<br>(100/16V)<br>C5602,C5604,C5615,C5617<br>C5605,C5606,C5610                 | ACH1394<br><br>CKSRYB103K50<br>CKSSYF104Z16                         |
| <b><u>RESISTORS</u></b>              |                                                                                                            |                                                                     |
|                                      | R5601 (1,1/2W)<br>R5627 (3.3,1/2W)<br>Other Resistors                                                      | ACN1162<br>ACN1168<br>RS1/16S####J                                  |

| Mark No.      | Description   | Part No.    |
|---------------|---------------|-------------|
| <b>OTHERS</b> |               |             |
| ⚠ CN5601      | 11P CONNECTOR | B11B-PH-SM3 |
| ⚠ CN5602      | 7P CONNECTOR  | B7B-PH-SM3  |

## HD SP TERMINAL ASSY

### COILS AND FILTERS

|             |         |
|-------------|---------|
| L3701,L3702 | ATF1206 |
|-------------|---------|

### CAPACITORS

|               |              |
|---------------|--------------|
| ⚠ C3701-C3704 | CCSRCH101J50 |
| C3713-C3716   | CCSRCH221J50 |
| C3709,C3710   | CKSRYB332K50 |
| C3711,C3712   | CKSRYF473Z50 |

### RESISTORS

|             |              |
|-------------|--------------|
| R3701-R3704 | RD1/2MMF100J |
|-------------|--------------|

### OTHERS

|        |                  |         |
|--------|------------------|---------|
| J3701  | 6P HOUSING WIRE  | ADX2838 |
| CN3701 | SPEAKER TERMINAL | AKE1060 |
| ⚠ 3701 | SPEAKER SHIELD A | ANK1710 |
| ⚠ 3702 | SPEAKER SHIELD B | ANK1711 |

## HD AUDIO AMP ASSY

### SEMICONDUCTORS

|                               |           |
|-------------------------------|-----------|
| IC3502                        | BD3869AS  |
| IC3504                        | LA4625    |
| IC3501                        | NJM2195L  |
| IC3503                        | NJM7809FA |
| Q3501,Q3502,Q3507,Q3510,Q3511 | 2SA1162   |
| Q3503,Q3504,Q3508             | 2SC2712   |
| Q3512                         | DTC124EK  |
| D3501-D3504                   | 1SS355    |

### CAPACITORS

|                               |              |
|-------------------------------|--------------|
| C3525                         | CCSRCH221J50 |
| C3501-C3504,C3520,C3528-C3532 | CEAT100M50   |
| C3505,C3526,C3549,C3557,C3564 | CEAT101M16   |
| C3519                         | CEAT1R0M50   |
| C3536                         | CEAT220M50   |
| C3537,C3538                   | CEAT2R2M50   |
| C3551,C3552                   | CEAT330M25   |
| C3566                         | CEHAT101M10  |
| C3561                         | CEHAT101M16  |
| C3562,C3565                   | CEHAT220M50  |
| C3559,C3560                   | CEHAT2R2M50  |
| C3509                         | CEHAT331M16  |
| C3507                         | CEHAT471M25  |
| C3571                         | CEHAT472M25  |
| C3563                         | CEHATR47M50  |
| C3512,C3522,C3572             | CFTLA103J50  |
| C3511,C3513-C3518,C3533,C3534 | CFTLA104J50  |
| C3545-C3548,C3573-C3576       | CFTLA104J50  |
| C3521                         | CFTLA333J50  |
| C3524                         | CFTLA334J50  |
| C3523                         | CFTLA474J50  |
| C3506,C3508,C3510,C3527,C3535 | CKSRYB103K50 |
| C3550,C3558                   | CKSRYB103K50 |
| C3543,C3544                   | CQMA222J50   |

| Mark No.         | Description | Part No.     |
|------------------|-------------|--------------|
| <b>RESISTORS</b> |             |              |
| R3599-R3602      |             | RD1/2MMF2R2J |
| Other Resistors  |             | RS1/16S####J |

### OTHERS

|               |                   |              |
|---------------|-------------------|--------------|
| 3511          | AUDIO HEATSINK    | ANH1612      |
| CN3504        | 3P CONNECTOR      | B3P-VH       |
| 3512-3515     | SCREW             | VBB30P100FNI |
| KN3501,KN3502 | WRAPPING TERMINAL | VNF1084      |

## 50 X DRIVE ASSY

### [50 X LOGIC BLOCK]

### SEMICONDUCTORS

|        |              |
|--------|--------------|
| IC1002 | TC74ACT540FT |
| IC1001 | TC74ACT541FT |
| IC1003 | TC74VHC08FT  |

### CAPACITORS

|             |              |
|-------------|--------------|
| C1001       | CEHAT470M25  |
| C1002-C1004 | CKSRYB104K16 |

### RESISTORS

|                   |           |
|-------------------|-----------|
| R1001,R1002,R1005 | RAB4C470J |
| R1003,R1004,R1007 | RAB4C472J |

### OTHERS

|        |                   |         |
|--------|-------------------|---------|
| CN1001 | 30P FFC CONNECTOR | AKM1218 |
|--------|-------------------|---------|

### [50 X RESONANCE BLOCK]

### SEMICONDUCTORS

|                               |          |
|-------------------------------|----------|
| IC1103                        | BA10393F |
| IC1101,IC1102                 | TND506MD |
| Q1113                         | 2SC2412K |
| Q1102,Q1103,Q1111,Q1112       | 2SK3560  |
| Q1105,Q1106,Q1108,Q1109       | 2SK3723  |
| Q1101,Q1104,Q1107,Q1110       | CPH5506  |
| D1131                         | 1SS133   |
| D1109,D1122                   | 1SS302   |
| D1101,D1102,D1104,D1105       | EC11FS4  |
| D1107,D1108,D1111,D1114-D1117 | EC11FS4  |
| D1120,D1121,D1127,D1128       | EC11FS4  |
| D1103,D1113,D1118             | FCU20A30 |
| D1124,D1125,D1129,D1130       | FCU20A30 |
| D1110,D1123                   | UDZS16B  |

### COILS AND FILTERS

|                   |          |
|-------------------|----------|
| L1104,L1103,L1105 | ATH1119  |
| L1104             | ATH1155  |
| L1102             | ATH1156  |
| L1101             | LFEA470J |

### CAPACITORS

|                                          |               |
|------------------------------------------|---------------|
| C1112,C1113,C1114,C1125,C1126 (3.3/250V) | ACE1168       |
| C1127 (3.3/250V)                         | ACE1168       |
| C1111,C1124 (100p/630V)                  | ACG1104       |
| C1109,C1119 (0.1/630V)                   | ACG1108       |
| C1101,C1105,C1116,C1117                  | CCSRCH331J50  |
| C1128,C1130-C1132                        | CKSRYB104K16  |
| C1102,C1118                              | CKSRYB105K6R3 |
| C1104,C1108,C1115,C1122                  | CKSYB105K25   |

| Mark No.                      | Description | Part No.     |
|-------------------------------|-------------|--------------|
| <b>RESISTORS</b>              |             |              |
| R1154                         |             | RD1/4PU390J  |
| R1116,R1122                   |             | RS1/10S1003F |
| R1133,R1143-R1145             |             | RS1/10S100J  |
| R1103,R1106,R1110,R1111,R1118 |             | RS1/10S2R2J  |
| R1119,R1153,R1123,R1126       |             | RS1/10S2R2J  |
| R1136                         |             | RS1/16S1202F |
| R1139                         |             | RS1/16S3301F |
| R1130                         |             | RS1/16S5601F |
| R1134                         |             | RS1/16S8201F |
| R1113,R1128                   |             | RS1MMF101J   |
| VR1101-VR1104                 |             | CCP1390      |
| Other Resistors               |             | RS1/16S####J |

### **[50 X SUS BLOCK] SEMICONDUCTORS**

|               |              |
|---------------|--------------|
| IC1202        | HCPL-M611    |
| IC1205        | NJM2872F05   |
| IC1203,IC1207 | STK795-512   |
| IC1208        | TLP181(P-GR) |
| IC1204,IC1206 | TND301S      |

|       |           |
|-------|-----------|
| Q1207 | 2SC2412K  |
| Q1203 | 2SD1898   |
| Q1302 | 2SJ522    |
| Q1301 | 2SK2503   |
| Q1205 | 2SK3116-Z |

|                   |          |
|-------------------|----------|
| Q1206,Q1208       | DTC124EK |
| Q1201             | HN1B04FU |
| D1212             | 1SS302   |
| D1211,D1213,D1216 | 1SS355   |
| D1201,D1207       | EC10QS04 |

|             |          |
|-------------|----------|
| D1204,D1301 | EC11FS4  |
| D1214       | EC8FS6   |
| D1208       | UDZS5.6B |

### **COILS AND FILTERS**

|             |          |
|-------------|----------|
| L1204,L1205 | ATH1112  |
| L1202       | LFEA100J |
| L1203,L1206 | LFEA470J |

### **CAPACITORS**

|                         |         |
|-------------------------|---------|
| C1214-C1217,C1227-C1230 | ACE1163 |
| C1233 (0.12/250V)       | ACE1169 |
| C1244 (0.1/250V)        | ACE1170 |
| C1209 (0.1/630V)        | ACG1092 |
| C1219,C1231             | ACH1358 |

|                               |              |
|-------------------------------|--------------|
| C1224                         | CEHAT101M16  |
| C1301                         | CEHAT221M25  |
| C1203,C1207,C1210,C1220,C1223 | CEHAT470M25  |
| C1238,C1239                   | CEHAT470M25  |
| C1235                         | CKSRYB102K50 |

|                               |              |
|-------------------------------|--------------|
| C1213,C1225,C1240,C1241,C1243 | CKSRYB104K16 |
| C1202,C1205,C1206,C1212,C1302 | CKSRYF104Z50 |

### **RESISTORS**

|                             |             |
|-----------------------------|-------------|
| R1230 (2.2, 1/2W)           | ACN1166     |
| R1208,R1321,R1322 (10,1/2W) | ACN1174     |
| R1304 (560,1/2W)            | ACN1195     |
| R1305 (1k,1/2W)             | ACN1198     |
| R1301,R1302,R1314           | RS1/10S122J |

|             |            |
|-------------|------------|
| R1226,R1251 | RS1MMF331J |
|-------------|------------|

| Mark No.        | Description | Part No.     |
|-----------------|-------------|--------------|
| R1235,R1236     |             | RS2MMF121J   |
| Other Resistors |             | RS1/16S####J |

### **OTHERS**

|                             |         |
|-----------------------------|---------|
| KN1201-KN1205,KN1208,KN1209 | ANK-142 |
| (GROUND PLATE)              |         |
| KN1210-KN1212,KN1213,KN1214 | ANK-142 |
| (GROUND PLATE)              |         |
| CN1201 12P CONNECTOR        | B12B-EH |

### **[50 X D-D CON BLOCK] SEMICONDUCTORS**

|               |              |
|---------------|--------------|
| IC1404        | AN1431M      |
| IC1402        | MIP161       |
| IC1401,IC1403 | TLP181(P-GR) |
| Q1401         | 2SA1037K     |
| Q1402         | 2SC2412K     |

|             |          |
|-------------|----------|
| D1407,D1408 | EC11FS2  |
| D1404       | EC8FS6   |
| D1401,D1403 | UDZS5.6B |

### **COILS AND FILTERS**

|       |         |
|-------|---------|
| L1401 | ATH1110 |
| T1401 | ATK1153 |

### **CAPACITORS**

|                         |              |
|-------------------------|--------------|
| C1401,C1402 (22/315V)   | ACH1361      |
| C1404                   | CEHAT101M16  |
| C1405                   | CEHAT101M25  |
| C1409                   | CEHAT331M16  |
| C1403,C1407,C1408,C1411 | CKSRYB104K16 |

|       |              |
|-------|--------------|
| C1406 | CKSRYF104Z50 |
|-------|--------------|

### **RESISTORS**

|                               |              |
|-------------------------------|--------------|
| R1405,R1406,R1408-R1410,R1414 | RS1/10S3602F |
| R1420                         | RS1/16S1101F |
| R1403                         | RS1/16S2702F |
| R1401,R1404                   | RS1/16S4701F |
| R1417                         | RS1/16S7500F |

|                 |              |
|-----------------|--------------|
| VR1401 (1k)     | CCP1390      |
| Other Resistors | RS1/16S####J |

### **OTHERS**

|                            |              |
|----------------------------|--------------|
| 1002 CARD SPACER           | AEC1957      |
| 1001 DRIVE SIRICON SHEET A | AEH1062      |
| 1001 PLATE X               | ANG2622      |
| 1001 DRIVE HEATSINK A      | ANH1613      |
| 1001 SCREW                 | BMZ30P080FZK |

|            |              |
|------------|--------------|
| 1002 SCREW | PMB30P060FNI |
|------------|--------------|

### **PANEL SENSOR ASSY SEMICONDUCTORS**

|        |          |
|--------|----------|
| IC1072 | MM1522XU |
| IC1071 | MM3012XN |

### **CAPACITORS**

|                 |              |
|-----------------|--------------|
| C1075 (47/6.3V) | ACH1357      |
| C1074           | CKSRYB103K50 |
| C1071,C1076     | CKSRYB104K16 |
| C1072,C1073     | CKSRYF105Z10 |

**Mark No. Description****Part No.****RESISTORS**

R1076,R1078  
Other Resistors

RS1/16S1001F  
RS1/16S####J

**50 Y DRIVE ASSY****OTHERS**

2002 CARD SPACER  
2001 DRIVE SIRICON SHEET A  
2001 PLATE Y  
2001 DRIVE HEATSINK A  
2001 SCREW

AEC1957  
AEH1062  
ANG2557  
ANH1613  
BMZ30P080FZK

2002 SCREW

PMB30P060FNI

**[50 Y LOGIC BLOCK]****SEMICONDUCTORS**

IC2002  
IC2001,IC2003  
IC2005  
IC2004  
Q2001

TC74ACT540FT  
TC74ACT541FT  
TC74VHC08FT  
TC74VHC541FT  
DTC124EK

**CAPACITORS**

C2001  
C2010,C2011  
C2002-C2006

CEHAT470M16  
CKSRYB104K16  
CKSRYF104Z50

**RESISTORS**

R2018,R2019  
R2002,R2004,R2013-R2015  
R2005,R2006,R2012,R2016,R2017  
Other Resistors

RAB4C102J  
RAB4C470J  
RAB4C472J  
RS1/16S####J

**OTHERS**

CN2001 50P CONNECTOR

AKM1201

**[50 Y RESONANCE BLOCK]****SEMICONDUCTORS**

IC2211  
IC2201,IC2202  
Q2213  
Q2202,Q2211,Q2212,Q2214  
Q2205,Q2206,Q2208,Q2209

BA10393F  
TND506MD  
2SC2412K  
2SK3560  
2SK3723

Q2201,Q2204,Q2207,Q2210  
D2230  
D2209,D2223  
D2202-D2205,D2207,D2208  
D2213,D2214,D2216-D2219,D2222

CPH5506  
1SS133  
1SS302  
EC11FS4  
EC11FS4

D2226,D2227  
D2201,D2206,D2211,D2215,D2220  
D2228,D2229  
D2210,D2224

EC11FS4  
FCU20A30  
FCU20A30  
UDZS16B

**COILS AND FILTERS**

L2203,L2205  
L2204  
L2202  
L2201

ATH1119  
ATH1155  
ATH1156  
LFEA470J

**Mark No. Description****Part No.****CAPACITORS**

C2212,C2213,C2214,C2225,C2226  
(3.3/250V)  
C2227 (3.3/250V)  
C2211,C2224 (100p/630V)  
C2210,C2223 (0.1/630V)  
C2202,C2205,C2216,C2217

ACE1168  
ACE1168  
ACG1104  
ACG1108  
CCSRCH331J50

C2230,C2232,C2233,C2235  
C2203,C2218  
C2201,C2208,C2215,C2219

CKSRYB104K16  
CKSRYB105K6R3  
CKSYB105K25

**RESISTORS**

R2254  
R2240,R2241  
R2244-R2247  
R2204,R2205,R2211,R2213,R2220  
R2221,R2224,R2228,R2253

RS1/4PU390J  
RS1/10S1003F  
RS1/10S100J  
RS1/10S2R2J  
RS1/10S2R2J

R2234  
R2235  
R2233  
R2242  
R2215,R2230

RS1/16S1202F  
RS1/16S3301F  
RS1/16S5601F  
RS1/16S8201F  
RS1MMF101J

VR2201-VR2204 (1k)  
Other Resistors

CCP1390  
RS1/16S####J

**[50 Y SUS BLOCK]****SEMICONDUCTORS**

IC2302,IC2308  
IC2305  
IC2303,IC2307  
IC2301,IC2304,IC2309  
Q2310

HCPL-M611  
NJM2872F05  
STK795-513  
TND301S  
2SC2412K

Q2303,Q2307  
Q2301  
Q2302,Q2308,Q2312  
Q2309  
D2302

2SD1898  
2SJ522  
2SK3325-Z  
HN1B04FU  
1SS302

D2319,D2320  
D2305  
D2301  
D2306,D2318

EC10QS04  
EC11FS4  
UDZS16B  
UDZS5.6B

**COILS AND FILTERS**

L2306,L2307  
L2304  
L2308  
L2301,L2302,L2305

ATH1112  
LFEA100J  
LFEA101J  
LFEA470J

**CAPACITORS**

C2309-C2312,C2326,C2327  
(1.5/300V)  
C2329,C2330 (1.5/300V)  
C2314 (0.047/250V)  
C2302 (0.1/630V)

ACE1163  
ACE1163  
ACE1165  
ACG1092

C2316,C2331 (300/280V)  
C2303 (22/315V)  
C2336 (220/100V)  
C2306,C2334  
C2308,C2324,C2339,C2340

ACH1358  
ACH1361  
ACH1393  
CEHAT221M25  
CEHAT470M16

C2304,C2320,C2338  
C2305,C2322,C2323,C2325,C2333

CEHAT470M25  
CKSRYB104K16

| Mark No.          | Description | Part No.     |
|-------------------|-------------|--------------|
| C2341             |             | CKSRYB104K16 |
| C2301,C2307,C2328 |             | CKSRYF104Z50 |

**RESISTORS**

|                         |            |
|-------------------------|------------|
| R2332 (2.2,1/2W)        | ACN1166    |
| R2364,R2365 (10,1/2W)   | ACN1174    |
| R2309                   | RS1MMF132J |
| R2310,R2311             | RS1MMF472J |
| R2312-R2314,R2322,R2323 | RS3LMF100J |
| R2348,R2352,R2358,R2359 | RS3LMF1R8J |

|                 |             |
|-----------------|-------------|
| Other Resistors | RS1/16S###J |
|-----------------|-------------|

**OTHERS**

|                                               |         |
|-----------------------------------------------|---------|
| KN2301-KN2305,KN2310,KN2311<br>(GROUND PLATE) | ANK-142 |
| KN2312,KN2314,KN2315,KN2316<br>(GROUND PLATE) | ANK-142 |
| CN2301 11P CONNECTOR                          | B11B-EH |

**[50 Y SCAN BLOCK]****SEMICONDUCTORS**

|                      |              |
|----------------------|--------------|
| IC2101,IC2103-IC2106 | HCPL-M611    |
| IC2108,IC2109        | HCPL-M611    |
| IC2102,IC2107        | TC74ACT540FT |

**COILS AND FILTERS**

|             |          |
|-------------|----------|
| L2101-L2103 | LFEA100J |
|-------------|----------|

**CAPACITORS**

|                                   |              |
|-----------------------------------|--------------|
| C2104,C2111,C2116,C2117 (47/160V) | ACH1392      |
| C2101,C2107,C2113                 | CEHAT221M16  |
| C2102,C2103,C2105,C2106           | CKSRYB104K16 |
| C2108-C2110,C2112,C2114           | CKSRYB104K16 |

**RESISTORS**

|                 |             |
|-----------------|-------------|
| R2121,R2128     | RAB4C472J   |
| Other Resistors | RS1/16S###J |

**OTHERS**

|                             |         |
|-----------------------------|---------|
| CN2101,CN2102 15P CONNECTOR | AKM1200 |
|-----------------------------|---------|

**[50 Y D-D CON BLOCK]****SEMICONDUCTORS**

|                             |              |
|-----------------------------|--------------|
| IC2410-IC2412               | AN1431M      |
| IC2406                      | BA10358F     |
| IC2401                      | MIP0223SC    |
| IC2402-IC2405,IC2407-IC2409 | TLP181(P-GR) |
| Q2402,Q2407                 | 2SA1037K     |

|                   |          |
|-------------------|----------|
| Q2410             | 2SA1163  |
| Q2417             | 2SA1535  |
| Q2411-Q2414,Q2416 | 2SC2412K |
| Q2405             | 2SC2713  |
| Q2403             | 2SD1664  |

|                   |          |
|-------------------|----------|
| Q2401,Q2404       | 2SD1898  |
| Q2415             | HN1C01FU |
| D2430             | 1SS301   |
| D2410,D2419,D2436 | 1SS302   |
| D2409,D2418       | 1SS355   |

|             |         |
|-------------|---------|
| D2404-D2407 | EC11FS2 |
|-------------|---------|

| Mark No.    | Description | Part No. |
|-------------|-------------|----------|
| D2403,D2414 |             | EC11FS4  |
| D2402       |             | EC8FS6   |
| D2427       |             | RD91PA   |
| D2401       |             | U1ZB330  |

|                     |          |
|---------------------|----------|
| D2412, D2413, D2422 | UDZS15B  |
| D2425,D2426         | UDZS27B  |
| D2415               | UDZS33B  |
| D2432               | UDZS4.3B |
| D2423,D2431         | UDZS5.6B |

**COILS AND FILTERS**

|       |          |
|-------|----------|
| T2402 | ATK1156  |
| T2403 | ATK1157  |
| T2401 | ATK1158  |
| L2402 | LFEA100J |
| L2401 | LFEA101J |
| L2403 | LFEA470J |

**CAPACITORS**

|                   |             |
|-------------------|-------------|
| C2406 (100/160V)  | ACH1360     |
| C2401 (22/315V)   | ACH1361     |
| C2427             | CEHAT100M50 |
| C2403             | CEHAT101M16 |
| C2405,C2407,C2417 | CEHAT101M25 |

|             |              |
|-------------|--------------|
| C2414       | CEHAT221M16  |
| C2410       | CEHAT221M25  |
| C2411       | CEHAT331M25  |
| C2420       | CEHAT470M2A  |
| C2409,C2419 | CKSRYB103K50 |

|                               |               |
|-------------------------------|---------------|
| C2402,C2412,C2413,C2423,C2425 | CKSRYB104K16  |
| C2431,C2432,C2434-C2436       | CKSRYB104K16  |
| C2441-C2443                   | CKSRYB104K16  |
| C2415,C2421,C2428             | CKSRYB105K6R3 |
| C2404,C2408,C2416,C2418,C2426 | CKSRYF104Z50  |

|       |              |
|-------|--------------|
| C2429 | CKSRYF104Z50 |
|-------|--------------|

**RESISTORS**

|                   |              |
|-------------------|--------------|
| R2429 (180k,1/2W) | ACN1225      |
| R2435,R2439       | RS1/10S2202F |
| R2402-R2404       | RS1/10S3902F |
| R2442             | RS1/16S1201F |
| R2468             | RS1/16S1202F |

|                   |              |
|-------------------|--------------|
| R2424             | RS1/16S2001F |
| R2420,R2427,R2438 | RS1/16S2201F |
| R2467             | RS1/16S3301F |
| R2457-R2460       | RS1/16S4701F |
| R2506             | RS3LMF151J   |

|                    |             |
|--------------------|-------------|
| VR2401,VR2402 (1k) | CCP1390     |
| Other Resistors    | RS1/16S###J |

**OTHERS**

|               |              |
|---------------|--------------|
| 2401 HEATSINK | ANH1614      |
| 2401 SCREW    | BBZ30P080FZK |

## 6. ADJUSTMENT



### 6.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

#### ■ 50 X DRIVE Assy

- When replaced  
VRN Voltage adjustment.

#### ■ PANEL IF Assy

- When replaced  
Replace the IC4201 from old assemble to new one.

#### ■ 50 Y DRIVE Assy

- When replaced  
No adjustment is required, because necessary adjustment has already been made.

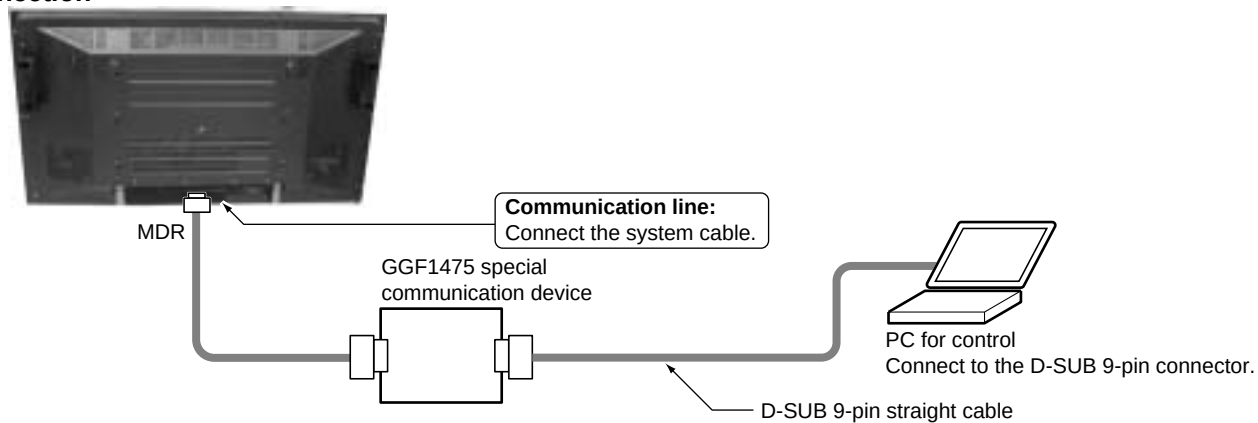
## 6.2 COMMAND

### 6.2.1 RS232C COMMAND

- The panel control items for the PDP-504 system can be controlled with the RS-232C commands by connecting a PC through the GGF1475 special communication device when the Media Receiver is not connected with the PDP.

**Note:** The special communication device for the PDP-503P cannot be used with this unit, because the control lines within the MDR cable are different.

#### ■ Connection





# • RS-232C Commands for the module microcomputer

| Command Name |     |                         |                                                                           | Validity of direct numeric input |             |             |
|--------------|-----|-------------------------|---------------------------------------------------------------------------|----------------------------------|-------------|-------------|
|              |     |                         |                                                                           | Validity                         | Lower limit | Upper limit |
| 1            | ABL | ABL ADJUSTMENT          | Adjusting the upper limit of the power                                    | ○                                | 0000        | 255         |
| 2            | AMN | AUDIO MUTE NO           | Turning off the audio muting                                              |                                  |             |             |
| 3            | AMY | AUDIO MUTE YES          | Turning on the audio muting                                               |                                  |             |             |
| 4            | BAL | BALANCE ADJUSTMENT      | Adjusting the audio balance                                               | ○                                | 98          | 158         |
| 5            | BAS | BASS ADJUSTMENT         | Adjusting the audio bass                                                  | ○                                | 121         | 135         |
| 6            | BCP | BACKUP COPY             | Copying the backup data in the EEPROM                                     |                                  |             |             |
| 7            | CTM | CLEAR TRAP MEMORY       | Clearing the TRAP log that records detection of opening of the rear cover |                                  |             |             |
| 8            | DRF | DRIVE OFF               | Driving off                                                               |                                  |             |             |
| 9            | DRN | DRIVE ON                | Driving on                                                                |                                  |             |             |
| 10           | F50 | FREQUENCY VIDEO 50Hz    | Setting the frequency in Mask mode to 50 Hz (VIDEO)                       |                                  |             |             |
| 11           | F60 | FREQUENCY VIDEO 60Hz    | Setting the frequency in Mask mode to 60 Hz (VIDEO)                       |                                  |             |             |
| 12           | F61 | FREQUENCY PC 60Hz       | Setting the frequency in Mask mode to 60 Hz (PC)                          |                                  |             |             |
| 13           | F70 | FREQUENCY PC 70Hz       | Setting the frequency in Mask mode to 70 Hz (PC)                          |                                  |             |             |
| 14           | F72 | FREQUENCY VIDEO 72Hz    | Setting the frequency in Mask mode to 72 Hz (VIDEO)                       |                                  |             |             |
| 15           | F75 | FREQUENCY VIDEO 75Hz    | Setting the frequency in Mask mode to 75 Hz (VIDEO)                       |                                  |             |             |
| 16           | FAJ | FINISH ADJUSTMENT       | Z-number F003 to 0003                                                     |                                  |             |             |
| 17           | FCN | FOCUS NO                | Turning the FOCUS function off                                            |                                  |             |             |
| 18           | FCY | FOCUS YES               | Turning the FOCUS function on                                             |                                  |             |             |
| 19           | GAJ | GET ADJUSTMENT          | Obtaining various adjustment values                                       |                                  |             |             |
| 20           | GPD | GET POWER-DOWN          | Obtaining the power-down-point log                                        |                                  |             |             |
| 21           | GPW | GET PANEL WHITE BALANCE | Obtaining the panel white-balance adjustment values                       |                                  |             |             |
| 22           | GS1 | GET STATUS 1            | Obtaining information on the unit, such as the software version           |                                  |             |             |
| 23           | GS2 | GET STATUS 2            | Obtaining information on the status of the unit, such as the temperature  |                                  |             |             |
| 24           | GSD | GET SHUT DOWN           | Obtaining information on shutdown                                         |                                  |             |             |
| 25           | LNN | LOUDNESS NO             | Turning the Loudness function off                                         |                                  |             |             |
| 26           | LNY | LOUDNESS YES            | Turning the Loudness function on                                          |                                  |             |             |
| 27           | M00 | MASK MODE 0             | Turning the Mask function off                                             |                                  |             |             |
| 28           | M01 | MASK MODE 1             | White raster (change in luminance level)                                  |                                  |             |             |
| 29           | M02 | MASK MODE 2             | White raster--zigzag, exact reverse--scan--gray--white raster             |                                  |             |             |
| 30           | M03 | MASK MODE 3             | White raster--zigzag, exact reverse--scan--gray--white raster             |                                  |             |             |
| 31           | M10 | MASK MODE 10            | H ramp (slant 1)                                                          |                                  |             |             |
| 32           | M11 | MASK MODE 11            | H ramp (slant 4)                                                          |                                  |             |             |
| 33           | M12 | MASK MODE 12            | H ramp (slant 1 shifting)                                                 |                                  |             |             |
| 34           | M13 | MASK MODE 13            | H ramp (slant 4 shifting)                                                 |                                  |             |             |
| 35           | M14 | MASK MODE 14            | V ramp (slant 1)                                                          |                                  |             |             |
| 36           | M15 | MASK MODE 15            | Slanting ramp                                                             |                                  |             |             |
| 37           | M20 | MASK MODE 20            | Window (for WB adjustment, Hi = 870, Lo = 102)                            |                                  |             |             |
| 38           | M21 | MASK MODE 21            | Window (for WB adjustment, Hi = 1023, Lo = 102)                           |                                  |             |             |
| 39           | M22 | MASK MODE 22            | Window (for measuring the peak luminance during WB adjustment, Hi = 1023) |                                  |             |             |
| 40           | M23 | MASK MODE 23            | Window (for measuring the peak luminance, Hi = 1023, 4%)                  |                                  |             |             |
| 41           | M24 | MASK MODE 24            | Window (for measuring the peak luminance, Hi = 1023, 1.25%)               |                                  |             |             |
| 42           | M25 | MASK MODE 25            | Window (vertical line with 1/7-width for measuring the stress)            |                                  |             |             |
| 43           | M26 | MASK MODE 26            | Window (magenta, green, and stripe for check)                             |                                  |             |             |
| 44           | M27 | MASK MODE 27            | Window (green,magenta, and stripe for checker)                            |                                  |             |             |
| 45           | M28 | MASK MODE 28            | Window (black & white [1 x 8], checker, for EMG check)                    |                                  |             |             |
| 46           | M29 | MASK MODE 29            | Window (for WB adjustment, magenta = 512, yellow = 512)                   |                                  |             |             |
| 47           | M2E | MASK MODE 2E            | Wiper for erasing afterimage                                              |                                  |             |             |
| 48           | M2F | MASK MODE 2F            | Mask for warning of cable disconnection                                   |                                  |             |             |
| 49           | M30 | MASK MODE 30            | ColorBar                                                                  |                                  |             |             |
| 50           | M31 | MASK MODE 31            | Slanted lines (for checking cable disconnection)                          |                                  |             |             |
| 51           | M51 | MASK MODE 51            | Raster-white                                                              |                                  |             |             |
| 52           | M52 | MASK MODE 52            | Raster-red                                                                |                                  |             |             |
| 53           | M53 | MASK MODE 53            | Raster-green                                                              |                                  |             |             |
| 54           | M54 | MASK MODE 54            | Raster-blue                                                               |                                  |             |             |
| 55           | M55 | MASK MODE 55            | Raster-black                                                              |                                  |             |             |
| 56           | M56 | MASK MODE 56            | Raster-cyan 1023                                                          |                                  |             |             |
| 57           | M57 | MASK MODE 57            | Raster-magenta 1023                                                       |                                  |             |             |
| 58           | M58 | MASK MODE 58            | Raster-yellow 1023                                                        |                                  |             |             |
| 59           | M59 | MASK MODE 59            | Raster-cyan 274                                                           |                                  |             |             |
| 60           | M60 | MASK MODE 60            | Raster-flesh color_50                                                     |                                  |             |             |
| 61           | M61 | MASK MODE 61            | Raster-light purple_50                                                    |                                  |             |             |
| 62           | M62 | MASK MODE 62            | Raster-sky blue_50                                                        |                                  |             |             |
| 63           | M63 | MASK MODE 63            | Raster-red 779                                                            |                                  |             |             |
| 64           | M64 | MASK MODE 64            | Raster-cyan 218                                                           |                                  |             |             |
| 65           | M65 | MASK MODE 65            | Raster-cyan 448                                                           |                                  |             |             |

A

| Command Name |     |                   | Function                                                               | Validity of direct numeric input |             |             |
|--------------|-----|-------------------|------------------------------------------------------------------------|----------------------------------|-------------|-------------|
|              |     |                   |                                                                        | Validity                         | Lower limit | Upper limit |
| 66           | M66 | MASK MODE 66      | Raster-flesh color_43                                                  |                                  |             |             |
| 67           | M67 | MASK MODE 67      | Raster-red 640                                                         |                                  |             |             |
| 68           | M68 | MASK MODE 68      | Raster-magenta 98                                                      |                                  |             |             |
| 69           | M69 | MASK MODE 69      | Raster-sky blue 1_43                                                   |                                  |             |             |
| 70           | M70 | MASK MODE 70      | Raster-sky blue 2_43                                                   |                                  |             |             |
| 71           | M71 | MASK MODE 71      | Raster-light purple_43                                                 |                                  |             |             |
| 72           | M72 | MASK MODE 72      | Raster-blue 60                                                         |                                  |             |             |
| 73           | M73 | MASK MODE 73      | Raster-gray 512 (reservation)                                          |                                  |             |             |
| 74           | M74 | MASK MODE 74      | Raster-gray 512 (reservation)                                          |                                  |             |             |
|              |     |                   |                                                                        |                                  |             |             |
| 88           | PBH | PANEL BLUE HIGH   | Panel white-balance adjustment: Blue highlight                         | ○                                | 000         | 511         |
| 89           | PBL | PANEL BLUE LOW    | Panel white-balance adjustment: Blue low light                         | ○                                | 000         | 999         |
| 90           | PCN | PC RGB NO         | Setting input-signal type to video                                     |                                  |             |             |
| 91           | PCY | PC RGB YES        | Setting input-signal type to PC                                        |                                  |             |             |
| 92           | PGH | PANEL GREEN HIGH  | Panel white-balance adjustment: Green highlight                        | ○                                | 000         | 511         |
| 93           | PGL | PANEL GREEN LOW   | Panel white-balance adjustment: Green low light                        | ○                                | 000         | 999         |
| 94           | PLA | BRIGHT ENHANCE A  | Center luminance-compensation function on (no correspondence with APL) |                                  |             |             |
| 95           | PLB | BRIGHT ENHANCE B  | Center luminance-compensation function on (in correspondence with APL) |                                  |             |             |
| 96           | PLN | BRIGHT ENHANCE NO | Center luminance-compensation function off                             |                                  |             |             |
| 97           | POF | POWER OFF         | Power off                                                              |                                  |             |             |
| 98           | PON | POWER ON          | Power on                                                               |                                  |             |             |
| 99           | PRH | PANEL RED HIGH    | Panel white balance adjustment-red highlight                           | ○                                | 000         | 511         |
| 100          | PRL | PANEL RED LOW     | Panel white-balance adjustment: Red low light                          | ○                                | 000         | 999         |
| 101          | SCN | SYSTEM CABLE NO   | Prohibiting monitoring of cable-disconnection detection                |                                  |             |             |
| 102          | SCY | SYSTEM CABLE YES  | Permitting monitoring of cable-disconnection detection                 |                                  |             |             |
| 103          | SRN | SRS NO            | SRS function off                                                       |                                  |             |             |
| 104          | SRY | SRS YES           | SRS function on                                                        |                                  |             |             |
| 105          | TBN | TRUBASS NO        | TruBass function off                                                   |                                  |             |             |
| 106          | TBY | TRUBASS YES       | TruBass function on                                                    |                                  |             |             |
| 107          | TRE | TREBLE ADJUSTMENT | Audio treble adjustment                                                | ○                                | 121         | 135         |
| 108          | TSN | TRAP SW NO        | Prohibiting detection of opening of the rear case                      |                                  |             |             |
| 109          | TSY | TRAP SW YES       | Permitting detection of opening of the rear case                       |                                  |             |             |
| 110          | UAJ | UN-ADJUSTMENT     | Z-number 0003 to F003                                                  |                                  |             |             |
| 111          | VOF | Vofs ADJUSTMENT   | Vofs voltage reference-value adjustment                                | ○                                | 000         | 255         |
| 112          | VOL | VOLUME            | Audio volume adjustment                                                | ○                                | 000         | 060         |
| 113          | VSU | Vsus ADJUSTMENT   | Vsus voltage reference-value adjustment                                | ○                                | 000         | 255         |
| 114          | XD1 | XSUS-D-1          | XSUS-D-1 adjustment                                                    | ○                                | 000         | 255         |
| 115          | XD2 | XSUS-D-2          | XSUS-D-2 adjustment                                                    | ○                                | 000         | 255         |
| 116          | XU1 | XSUS-U-1          | XSUS-U-1 adjustment                                                    | ○                                | 000         | 255         |
| 117          | XU2 | XSUS-U-2          | XSUS-U-2 adjustment                                                    | ○                                | 000         | 255         |
| 118          | YD1 | YSUS-D1-1         | YSUS-D1-1 adjustment                                                   | ○                                | 000         | 255         |
| 119          | YD2 | YSUS-D1-2         | YSUS-D1-2 adjustment                                                   | ○                                | 000         | 255         |
| 120          | YD3 | YSUS-D2-1         | YSUS-D2-1 adjustment                                                   | ○                                | 000         | 255         |
| 121          | YD4 | YSUS-D2-2         | YSUS-D2-2 adjustment                                                   | ○                                | 000         | 255         |
| 122          | YU1 | YSUS-U-1          | YSUS-U-1 adjustment                                                    | ○                                | 000         | 255         |
| 123          | YU2 | YSUS-U-2          | YSUS-U-2 adjustment                                                    | ○                                | 000         | 255         |

E

F

## ■ Command description

| Command | Function                                                        |
|---------|-----------------------------------------------------------------|
| GAJ     | Obtaining various adjustment values                             |
| GPD     | Obtaining power-down-point log                                  |
| GPW     | Obtaining panel white-balance adjustment values                 |
| GS1     | Obtaining information on the unit, such as the software version |
| GS2     | Obtaining information on the status of the unit                 |
| GSD     | Obtaining information on shutdown                               |

### GAJ: Obtaining data on ABL setting values, electronic-control adjustment values, and drive-system adjustment values

| Order | Data                              | Size    | Remarks   |
|-------|-----------------------------------|---------|-----------|
| 1     | ABL table currently used          | 3 bytes | AB1 - AB3 |
| 2     | Upper limit of power              | 3 bytes | 000 - 255 |
| 3     | Vsus adjustment value             | 3 bytes | 000 - 255 |
| 4     | Vofs adjustment value             | 3 bytes | 000 - 255 |
| 5     | X-SUS-U1 adjustment value (XU1)   | 3 bytes | 000 - 255 |
| 6     | X-SUS-U2 adjustment value (XU2)   | 3 bytes | 000 - 255 |
| 7     | X-SUS-D2 adjustment value (XD2)   | 3 bytes | 000 - 255 |
| 8     | X-SUS-D1 adjustment value (XD1)   | 3 bytes | 000 - 255 |
| 9     | Y-SUS-U1 adjustment value (YU1)   | 3 bytes | 000 - 255 |
| 10    | Y-SUS-U2 adjustment value (YU2)   | 3 bytes | 000 - 255 |
| 11    | Y-SUS-D1-2 adjustment value (YD2) | 3 bytes | 000 - 255 |
| 12    | Y-SUS-D1-1 adjustment value (YD1) | 3 bytes | 000 - 255 |
| 13    | Y-SUS-D2-2 adjustment value (YD4) | 3 bytes | 000 - 255 |
| 14    | Y-SUS-D2-1 adjustment value (YD3) | 3 bytes | 000 - 255 |

**Note:** Ignore the 2-byte checksum at the end.

### GPD: Obtaining power-down-point log on the panel

| Order | Data                                                  | Size    | Remarks                                  |
|-------|-------------------------------------------------------|---------|------------------------------------------|
| 1     | Latest "1st PD" data                                  | 1 byte  | 0-C or F                                 |
| 2     | Latest "2nd PD" data                                  | 1 byte  | 0-C or F                                 |
| 3     | Data of hour meter for the latest PD                  | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 4     | Data on temperature for the latest PD (TEMP1)         | 3 bytes | 000 - 255                                |
| 5     | Second latest "1st PD" data                           | 1 byte  | 0-C or F                                 |
| 6     | Second latest "2nd PD" data                           | 1 byte  | 0-C or F                                 |
| 7     | Data of hour meter for the second latest PD           | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 8     | Data on temperature for the second latest PD (TEMP1)  | 3 bytes | 000 - 255                                |
| 9     | Third latest "1st PD" data                            | 1 byte  | 0-C or F                                 |
| 10    | Third latest "2nd PD" data                            | 1 byte  | 0-C or F                                 |
| 11    | Data of hour meter for the third latest PD            | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 12    | Data on temperature for the third latest PD (TEMP1)   | 3 bytes | 000 - 255                                |
| 13    | Fourth latest "1st PD" data                           | 1 byte  | 0-C or F                                 |
| 14    | Fourth latest "2nd PD" data                           | 1 byte  | 0-C or F                                 |
| 15    | Data of hour meter for the fourth latest PD           | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 16    | Data on temperature for the fourth latest PD (TEMP1)  | 3 bytes | 000 - 255                                |
| 17    | Fifth latest "1st PD" data                            | 1 byte  | 0-C or F                                 |
| 18    | Fifth latest "2nd PD" data                            | 1 byte  | 0-C or F                                 |
| 19    | Data of hour meter for the fifth latest PD            | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 20    | Data on temperature for the fifth latest PD (TEMP1)   | 3 bytes | 000 - 255                                |
| 21    | Sixth latest "1st PD" data                            | 1 byte  | 0-C or F                                 |
| 22    | Sixth latest "2nd PD" data                            | 1 byte  | 0-C or F                                 |
| 23    | Data of hour meter for the sixth latest PD            | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 24    | Data on temperature for the sixth latest PD (TEMP1)   | 3 bytes | 000 - 255                                |
| 25    | Seventh latest "1st PD" data                          | 1 byte  | 0-C or F                                 |
| 26    | Seventh latest "2nd PD" data                          | 1 byte  | 0-C or F                                 |
| 27    | Data of hour meter for the seventh latest PD          | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 28    | Data on temperature for the seventh latest PD (TEMP1) | 3 bytes | 000 - 255                                |
| 29    | Eighth latest "1st PD" data                           | 1 byte  | 0-C or F                                 |
| 30    | Eighth latest "2nd PD" data                           | 1 byte  | 0-C or F                                 |
| 31    | Data of hour meter for the eighth latest PD           | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 31    | Data on temperature for the eighth latest PD (TEMP1)  | 3 bytes | 000 - 255                                |

**Notes:** • Ignore the 2-byte checksum at the end. • For details, see "Description on power-down."

# • Description on power-down

| Data | Power-down Point              |
|------|-------------------------------|
| 0    | No power-down                 |
| 1    | Not used (for MR-POWER)       |
| 2    | Panel-POWER SUPPLY            |
| 3    | SCAN                          |
| 4    | SCN-5V                        |
| 5    | Y-DRIVE                       |
| 6    | Y-DCDC                        |
| 7    | Y-SUS                         |
| 8    | ADR                           |
| 9    | X-DRIVE                       |
| A    | X-DCDC                        |
| B    | X-SUS                         |
| C    | DIG-DCDC                      |
| D    | Reservation                   |
| E    | Reservation                   |
| F    | Power-down point unidentified |

## GPW: Obtaining panel white-balance adjustment values

| Order | Data                                     | Size    | Remarks     |
|-------|------------------------------------------|---------|-------------|
| 1     | W/B table currently used                 | 3 bytes | PT1 - PT3   |
| 2     | Main contrast                            | 4 bytes | 0000 - 0511 |
| 3     | Red contrast of W/B adjustment value     | 4 bytes | 0000 - 0511 |
| 4     | Green contrast of W/B adjustment value   | 4 bytes | 0000 - 0511 |
| 5     | Blue contrast of W/B adjustment value    | 4 bytes | 0000 - 0511 |
| 6     | Main brightness                          | 4 bytes | 0000 - 1023 |
| 7     | Red brightness of W/B adjustment value   | 4 bytes | 0000 - 1023 |
| 8     | Green brightness of W/B adjustment value | 4 bytes | 0000 - 1023 |
| 9     | Blue brightness of W/B adjustment value  | 4 bytes | 0000 - 1023 |

**Note:** Ignore the 2-byte checksum at the end.

## GS1: Obtaining information on the unit, such as the software version (1)

| Order | Data                                | Size     |
|-------|-------------------------------------|----------|
| 1     | Display data                        | 3 bytes  |
| 2     | Version of the module microcomputer | 4 bytes  |
| 3     | IC4-MANTA version                   | 4 bytes  |
| 4     | Sequence version (43VIDEO)          | 4 bytes  |
| 5     | Sequence version (43PC)             | 4 bytes  |
| 6     | Sequence version (50VIDEO)          | 4 bytes  |
| 7     | Sequence version (50PC)             | 4 bytes  |
| 8     | Version of the IF microcomputer     | 4 bytes  |
| 9     | Version of the main microcomputer   | 4 bytes  |
| 10    | IC3-MANTA version                   | 4 bytes  |
| 11    | Version of the OSD                  | 4 bytes  |
| 12    | Reserve                             | 12 bytes |

**Note:** Ignore the 2-byte checksum at the end.

## GS6: Virsion (2)

| Order  | Data           | Size     |
|--------|----------------|----------|
| 1      | Display data   | 3 bytes  |
| 2 (*1) | Version of DTV | 4 bytes  |
| 3 (*1) | Version of CC  | 4 bytes  |
| 4 (*2) | PC - CARD      | 8 bytes  |
| 5 (*2) | TEXT           | 60 bytes |

(\*1) PU ONLY : Order 4,5 \*\*

(\*2) PE ONLY : Order 2,3 \*\*

## (Reference) GS2: Obtaining information on the status of the unit

| Order | Data                                                    | Size    | Remarks                                                                  |
|-------|---------------------------------------------------------|---------|--------------------------------------------------------------------------|
| 1     | Notifying that the unit is shifting to Standby mode     | 1 byte  | 1: OK for shifting to Standby                                            |
| 2     | Whether or not the main unit has been adjusted          | 1 byte  | 0: Adjusted, 1: Not adjusted                                             |
| 3     | With/without backup for adjustment values               | 1 byte  | 0: With backup, 1: Without backup                                        |
| 4     | Data on power-down                                      | 2 bytes | 1st byte: 1stPD, 2nd byte: 2ndPD                                         |
| 5     | Data on temperature (TEMP1)                             | 3 bytes | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 6     | Abnormality in RST2 (power decrease of DC-DC converter) | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 7     | IC4 communication failure                               | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 8     | EEPROM communication failure                            | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 9     | Audio failure                                           | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 10    | Volume IC communication failure                         | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 11    | Backup ROM communication failure                        | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 12    | Data on temperature (TEMP1) not obtained                | 1 byte  | 0: Normal, 1: SD process completed, 2: In the process of SD warning      |
| 13    | Operational status of panel protection mechanism        | 1 byte  | 0: Protection mechanism not activated, 1: Protection mechanism activated |
| 14    | Reservation                                             | 9 bytes | *****                                                                    |
| 15    | Hour meter                                              | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute                                 |

**Notes:** • Ignore the 2-byte checksum at the end.

• The data expected to be used for service may be "5. Data on temperature" and "15. Hour meter".

**GSD: Obtaining information on shutdown**

| Order | Data                                                  | Size    | Remarks                                  |
|-------|-------------------------------------------------------|---------|------------------------------------------|
| 1     | Latest SD data                                        | 1 byte  | 0 - 5                                    |
| 2     | Latest SD subcategory data                            | 1 byte  | 0 - 2                                    |
| 3     | Data of hour meter for the latest SD                  | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 4     | Data on temperature for the latest SD (TEMP1)         | 3 bytes | 000 - 255                                |
| 5     | Second latest SD data                                 | 1 byte  | 0 - 5                                    |
| 6     | Second latest SD subcategory data                     | 1 byte  | 0 - 2                                    |
| 7     | Data of hour meter for the second latest SD           | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 8     | Data on temperature for the second latest SD (TEMP1)  | 3 bytes | 000 - 255                                |
| 9     | Third latest SD data                                  | 1 byte  | 0 - 5                                    |
| 10    | Third latest SD subcategory data                      | 1 byte  | 0 - 2                                    |
| 11    | Data of hour meter for the third latest SD            | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 12    | Data on temperature for the third latest SD (TEMP1)   | 3 bytes | 000 - 255                                |
| 13    | Fourth latest SD data                                 | 1 byte  | 0 - 5                                    |
| 14    | Fourth latest SD subcategory data                     | 1 byte  | 0 - 2                                    |
| 15    | Data of hour meter for the fourth latest SD           | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 16    | Data on temperature for the fourth latest SD (TEMP1)  | 3 bytes | 000 - 255                                |
| 17    | Fifth latest SD data                                  | 1 byte  | 0 - 5                                    |
| 18    | Fifth latest SD subcategory data                      | 1 byte  | 0 - 2                                    |
| 19    | Data of hour meter for the fifth latest SD            | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 20    | Data on temperature for the fifth latest SD (TEMP1)   | 3 bytes | 000 - 255                                |
| 21    | Sixth latest SD data                                  | 1 byte  | 0 - 5                                    |
| 22    | Sixth latest SD subcategory data                      | 1 byte  | 0 - 2                                    |
| 23    | Data of hour meter for the sixth latest SD            | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 24    | Data on temperature for the sixth latest SD (TEMP1)   | 3 bytes | 000 - 255                                |
| 25    | Seventh latest SD data                                | 1 byte  | 0 - 5                                    |
| 26    | Seventh latest SD subcategory data                    | 1 byte  | 0 - 2                                    |
| 27    | Data of hour meter for the seventh latest SD          | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 28    | Data on temperature for the seventh latest SD (TEMP1) | 3 bytes | 000 - 255                                |
| 29    | Eighth latest SD data                                 | 1 byte  | 0 - 5                                    |
| 30    | Eighth latest SD subcategory data                     | 1 byte  | 0 - 2                                    |
| 31    | Data of hour meter for the eighth latest SD           | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 32    | Data on temperature for the eighth latest SD (TEMP1)  | 3 bytes | 000 - 255                                |

**Notes:**

- Ignore the 2-byte checksum at the end.
- For details, see "Description on shutdown".

**• Description of shutdown**

| Data | Factors of shutdown                                     |
|------|---------------------------------------------------------|
| 0    | No abnormality                                          |
| 1    | IC4                                                     |
| 2    | Module microcomputer IIC                                |
| 3    | Abnormality in RST2 (power decrease of DC-DC converter) |
| 4    | Panel having high temperature                           |
| 5    | Audio failure (speakers short-circuited)                |
| 6    | Reservation                                             |
| 7    | Reservation                                             |
| 8    | Reservation                                             |
| 9    | Reservation                                             |
| A    | Reservation                                             |
| B    | Reservation                                             |
| C    | Reservation                                             |
| D    | Reservation                                             |
| E    | Reservation                                             |
| F    | Reservation                                             |

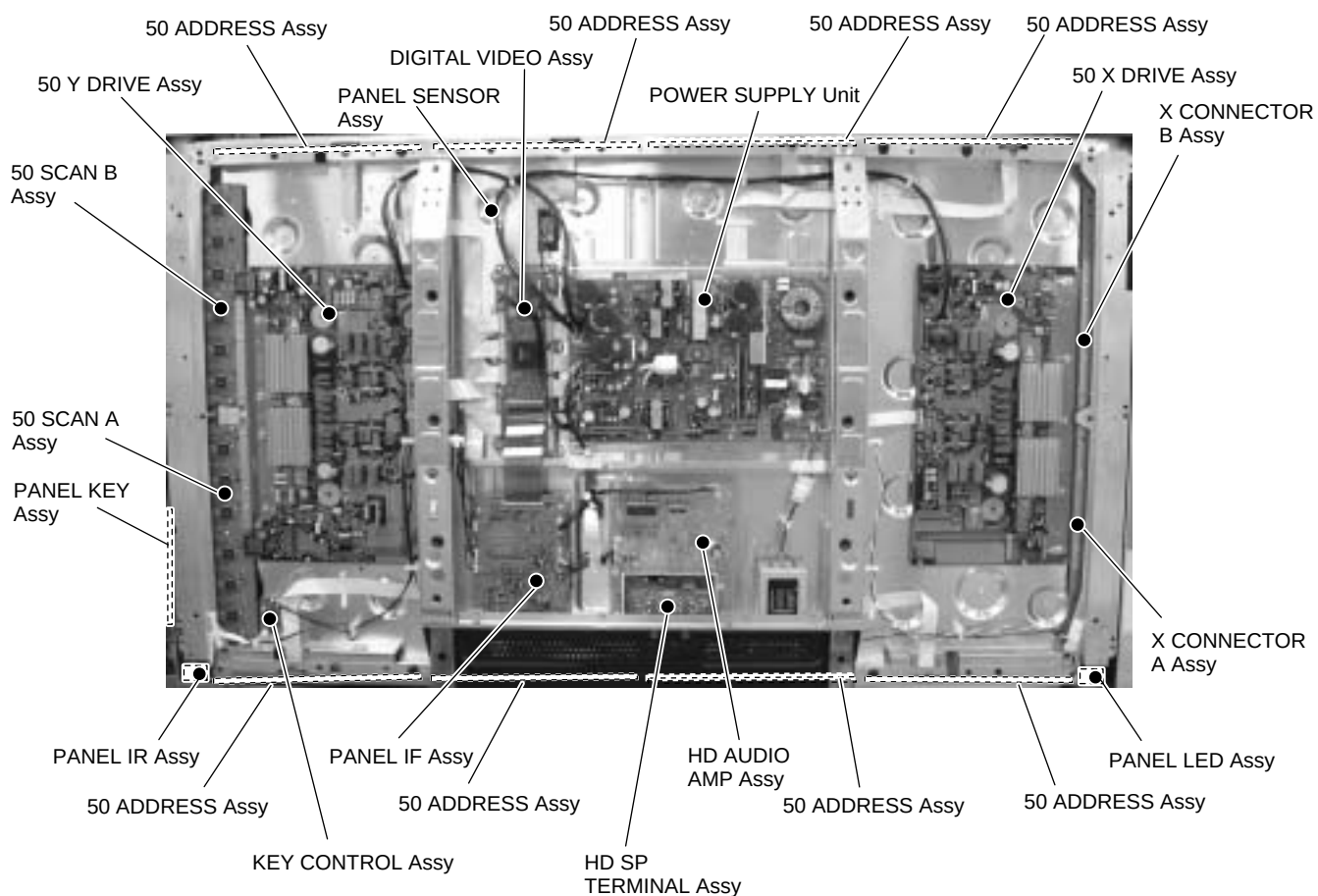
**• Module microcomputer IIC: Data on SD subcategory**

| Data | Factors of shutdown                  |
|------|--------------------------------------|
| 0    | No subcategory                       |
| 1    | EEPROM (DIGITAL VIDEO Assy : IC5206) |
| 2    | EEPROM (PANEL IF Assy : IC4002)      |
| 3    | Volume IC                            |
| 4    | Reservation                          |
| 5    | Reservation                          |
| 6    | Reservation                          |
| 7    | Reservation                          |
| 8    | Reservation                          |
| 9    | Reservation                          |
| A    | Reservation                          |
| B    | Reservation                          |
| C    | Reservation                          |
| D    | Reservation                          |
| E    | Reservation                          |
| F    | Reservation                          |

# 7. GENERAL INFORMATION

## 7.1 DIAGNOSIS

### 7.1.1 PCB LOCATION



● Rear view

## 7.1.2 DIAGNOSIS OF SHUTDOWN/POWER-DOWN INDICATED BY LEDs

### • Operation statuses indicated by LEDs

|                                                                              |              | MR-LED | PANEL-LED |                             |
|------------------------------------------------------------------------------|--------------|--------|-----------|-----------------------------|
| Standby                                                                      | RED<br>GREEN |        |           | Normal                      |
| Power on                                                                     | RED<br>GREEN |        |           |                             |
| MR-AC power off                                                              | RED<br>GREEN |        |           |                             |
| P-AC power off                                                               | RED<br>GREEN |        |           |                             |
| MR power-down                                                                | RED<br>GREEN |        |           | Abnormality<br>in MR        |
| MR shutdown                                                                  | RED<br>GREEN |        |           |                             |
| MR modification                                                              | RED<br>GREEN |        |           |                             |
| P-power-down                                                                 | RED<br>GREEN |        |           | Abnormality<br>in the panel |
| P-shutdown                                                                   | RED<br>GREEN |        |           |                             |
| P-modification                                                               | RED<br>GREEN |        |           |                             |
| Disconnection of the<br>system cable                                         | RED<br>GREEN |        |           | Disconnection<br>of cable   |
| Power management when<br>the Media Receiver is not<br>connected with the PDP | RED<br>GREEN |        |           |                             |

**Note:** "P" stands for panel.

- : Lit in red
- : Lit in green
- : Not lit

## • Identification of locations having abnormality by the number of times the LEDs flash

### ■ On Shutdown and power-down

#### Shutdown

- Operation: When the microcomputer detects any abnormality, it forcibly turns off the unit.
- LED indication: The green LED flashes.

#### Power-down

- Operation: When the unit is in emergency status, a protection circuit is activated, and the power is turned off.
- LED indication: The red LED flashes.

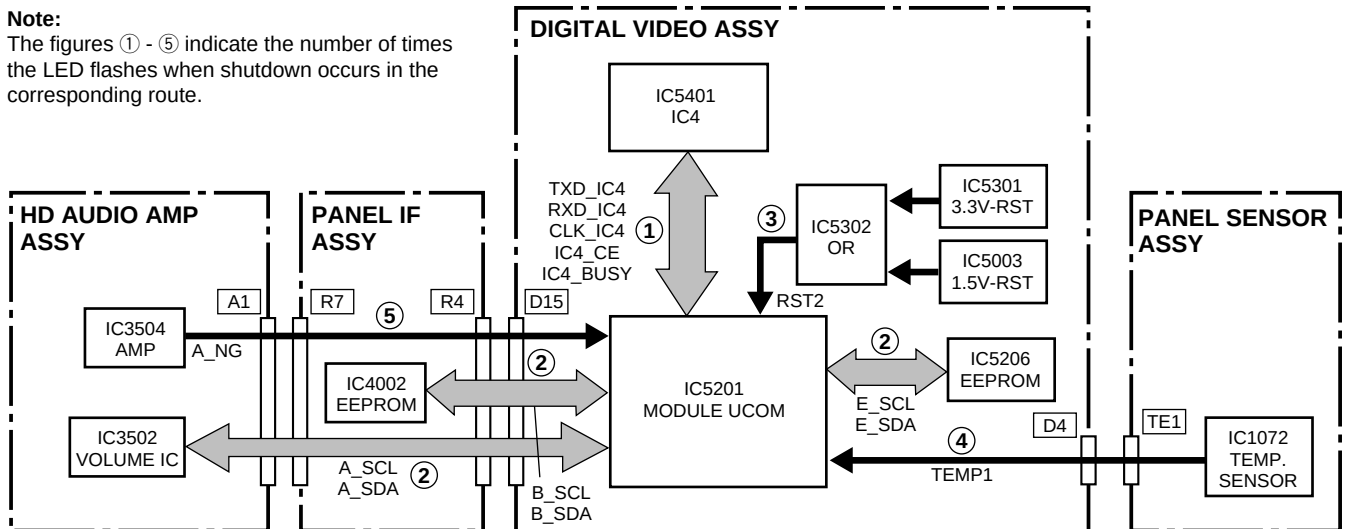
| Category | MR-LED |          | PANEL-LED |         | Content                                           | Unit's operation                  | Warning indication when the MR is connected                                                                                        |
|----------|--------|----------|-----------|---------|---------------------------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|          | STB    | ON       | STB       | ON      |                                                   |                                   |                                                                                                                                    |
| SD       | Lit    |          |           | 1 time  | Communication failure of the panel-drive IC       | Immediate shutdown                |                                                                                                                                    |
|          | Lit    |          |           | 2 times | Communication failure of the module IIC           | Immediate shutdown                |                                                                                                                                    |
|          | Lit    |          |           | 3 times | Power decrease of the digital DC-DC converter     | Immediate shutdown                |                                                                                                                                    |
|          | Lit    |          |           | 4 times | Panel having high temperature                     | Shutdown 30 seconds after warning | Powering off. Internal temperature too high<br>Check temperature around PDP.<br>Check temperature around media receiver.<br>[SD04] |
|          | Lit    |          |           | 5 times | Audio failure                                     | Shutdown 3 seconds after warning  | Powering off.<br>Internal protection circuits activated,<br>Is there a short in speaker cable ?<br>[SD05]                          |
|          |        | 6 times  | Lit       |         | Communication failure of the module microcomputer | Immediate shutdown                |                                                                                                                                    |
|          |        | 7 times  | Lit       |         | Main 3-wire serial communication in failure       | Immediate shutdown                |                                                                                                                                    |
|          |        | 8 times  | Lit       |         | Communication failure of the main IIC             | Immediate shutdown                |                                                                                                                                    |
|          |        | 9 times  | Lit       |         | Communication failure of the main microcomputer   | Immediate shutdown                |                                                                                                                                    |
|          |        | 10 times | Lit       |         | Fan in failure                                    | Immediate shutdown                |                                                                                                                                    |
|          |        | 11 times | Lit       |         | MR or unit having higher temperature              | Shutdown 30 seconds after warning | Powering off. Internal temperature too high<br>Check temperature around PDP.<br>Check temperature around media receiver.<br>[SD11] |
|          |        | 12 times | Lit       |         | Communication failure of the digital tuner        | Immediate shutdown                |                                                                                                                                    |
|          |        | 13 times | Lit       |         | MR-ASIC power (DC-DC) in failure                  | Immediate shutdown                |                                                                                                                                    |
|          |        | 14 times | Lit       |         | Communication failure of IF-EEPROM                | Immediate shutdown                |                                                                                                                                    |
| PD       | 1 time |          | Lit       |         | MR power supply                                   | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 2 times   |         | Panel-POWER SUPPLY                                | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 3 times   |         | SCAN                                              | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 4 times   |         | SCAN-5V                                           | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 5 times   |         | Y-DRIVE                                           | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 6 times   |         | Y-DCDC                                            | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 7 times   |         | Y-SUS                                             | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 8 times   |         | ADDRESS                                           | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 9 times   |         | X-DRIVE                                           | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 10 times  |         | X-DCDC                                            | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 11 times  |         | X-SUS                                             | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 12 times  |         | DIGITAL-DCDC                                      | Immediate power-down              |                                                                                                                                    |
|          | Lit    |          | 15 times  |         | UNKNOWN *                                         | Immediate power-down              |                                                                                                                                    |

\* If the unit cannot identify which protection circuit was activated, even if a power-down had been detected, the red LED may flash 15 times.

## • Block diagram of the shutdown signal system

### Note:

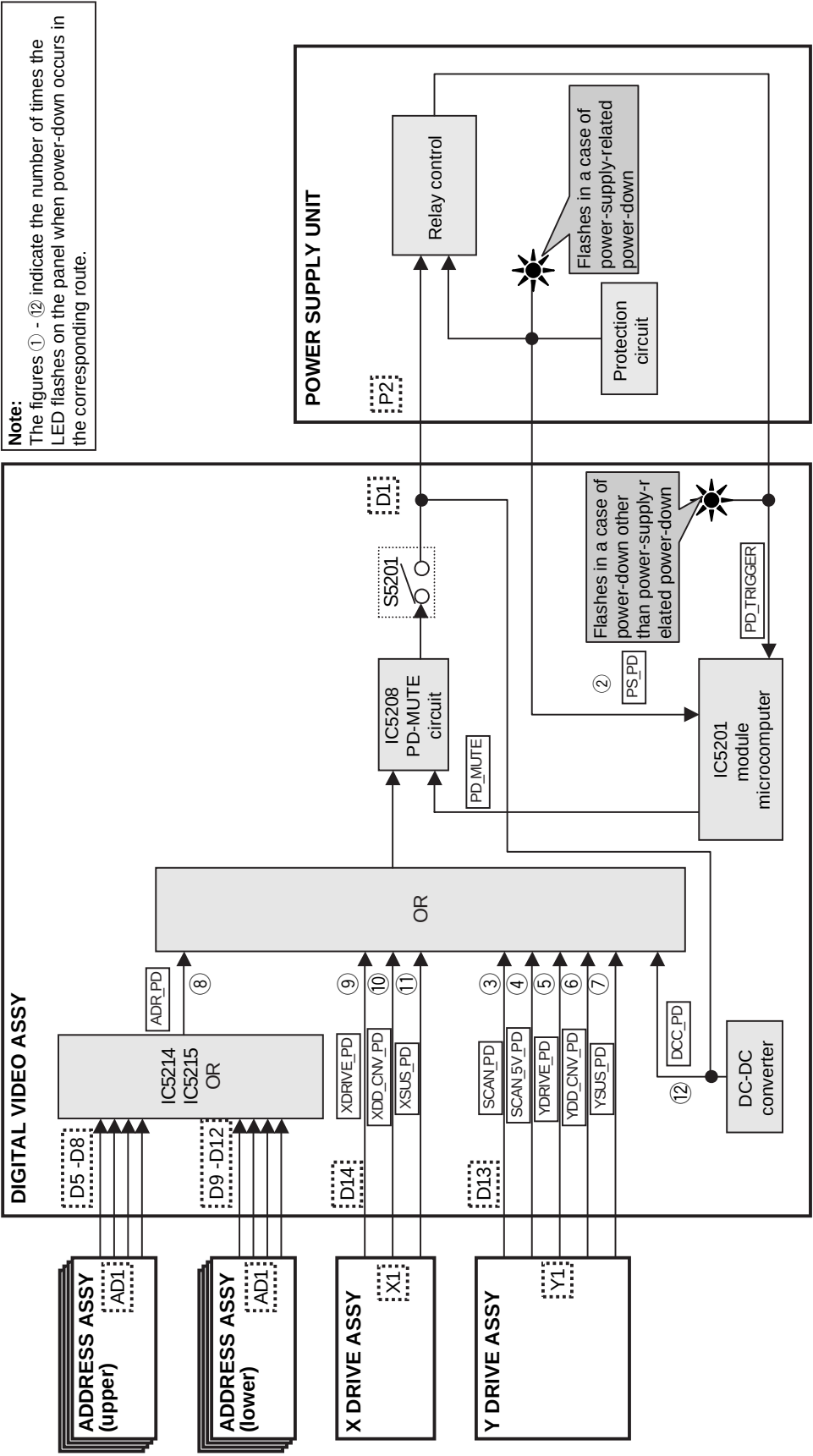
The figures ① - ⑤ indicate the number of times the LED flashes when shutdown occurs in the corresponding route.



## • Diagnosis of shutdown

| LED     | SD Circuit in Operation                                                                       | Defective Assy | Reason for Shutdown                      | Point to be Checked          | Possible Defective Part | Remarks                                                                                                 |
|---------|-----------------------------------------------------------------------------------------------|----------------|------------------------------------------|------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------|
| 1 time  | Communication failure of the panel-drive IC                                                   | DIGITAL VIDEO  | Communication failure of IC4             | IC4 BLOCK, PANEL FLASH BLOCK | IC5401, IC5305          |                                                                                                         |
|         |                                                                                               |                | Writing failure of IC4                   |                              |                         | After turning the unit on again, check if the data on the version can be read with the GS1 command.     |
| 2 times | Communication failure of the module IIC (Check the shutdown subcategory on the Factory menu.) | DIGITAL VIDEO  | Communication failure of the EEPROM (4K) | MODULE UCOM BLOCK            | IC5206                  |                                                                                                         |
|         |                                                                                               | PANEL IF       | Communication failure of the EEPROM (2K) | PANEL IF BLOCK               | IC4002                  |                                                                                                         |
|         |                                                                                               |                | Disconnection of cable                   | CN4009 - CN3501              |                         | Check if the cable is disconnected or not securely connected.                                           |
|         |                                                                                               | HD AUDIO       | Defective volume IC                      | HD AUDIO AMP Assy            | IC3502                  |                                                                                                         |
|         |                                                                                               |                | Defective 114-pin FPC                    | CN4004 - CN5001              | ADY1081                 | Check if the 114-pin FPC is broken or not securely connected.                                           |
| 3 times | Power decrease of DIGITAL-DC-DC                                                               | DIGITAL VIDEO  | Defective DC-DC converter                | DIGITAL DD CON BLOCK         | U5601                   | Check if 3.3 V, 2.5 V, and 1.5 V are activated.                                                         |
|         |                                                                                               |                | Defective RST IC                         | PANEL FLASH BLOCK            | IC5301, IC5302, IC5303  |                                                                                                         |
|         |                                                                                               | POWER SUPPLY   | No startup of 12 V                       |                              |                         |                                                                                                         |
| 4 times | Panel having higher temperature                                                               | DIGITAL VIDEO  | Cable disconnected                       | CN5202 - CN1071              |                         |                                                                                                         |
|         |                                                                                               |                | Panel having higher temperature          | Surrounding temperature      |                         | Shutdown occurs when the sensor temperature becomes 77°C or more (PDP-434P) or 83°C or more (PDP-504P). |
| 5 times | Audio failure                                                                                 |                | Speaker short-circuited                  | Speaker terminals            |                         | Check if the speaker cables are in contact with the chassis, etc.                                       |
|         |                                                                                               | HD AUDIO       | Defective AMP IC                         | HD AUDIO AMP ASSY            | IC3504                  |                                                                                                         |
|         |                                                                                               | HD AUDIO       | Disconnection of cable                   | CN4009 - CN3501              |                         | Check if the cable is disconnected or not securely connected.                                           |

• Block diagram of the power-down signal system



• Power-down diagnosis (defective points)

| PD Circuit in operation | Defective Assy                          | Reason for Power-down                                  | Point to be Checked             | Possible Defective Part                                                                                 | Remarks                                                                                                                                                  |
|-------------------------|-----------------------------------------|--------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 MR POWER              |                                         |                                                        |                                 |                                                                                                         |                                                                                                                                                          |
| 2 POWER                 | POWER SUPPLY Unit                       |                                                        |                                 |                                                                                                         | If the elapsed time from relay-on until the LED in the power supply unit lights is about 2-4 seconds, the defective assembly may be the 50 X or Y DRIVE. |
|                         | 50 X DRIVE Assy                         | VSUS UVP                                               | X SUS BLOCK                     | IC1203 - IC1207 (mask module)                                                                           |                                                                                                                                                          |
|                         | 50 Y DRIVE Assy                         | VSUS UVP                                               | Y SUS BLOCK                     | IC2303 - IC2307 (mask module)                                                                           |                                                                                                                                                          |
| 3 SCAN                  | 50 SCAN A, B Assy<br>or Y 43 DRIVE Assy | VH UVP                                                 | SCAN IC                         | SCAN IC                                                                                                 |                                                                                                                                                          |
|                         |                                         | VH UVP                                                 | VH DC/DC                        | IC2401, IC2402, IC2410, L2401                                                                           |                                                                                                                                                          |
|                         |                                         | Disconnection of cable detected                        | CN2001, CN2301                  |                                                                                                         |                                                                                                                                                          |
| 4 SCN-5V                | 50 SCAN A, B Assy<br>or 43 Y DRIVE Assy | Disconnection of cable detected                        | CN2101, CN2102                  |                                                                                                         |                                                                                                                                                          |
|                         |                                         | IC5V UVP                                               | SCAN IC, IC5V DC/DC Y SUS BLOCK | SCAN IC, Q2401, Q2402, IC2304, IC2309                                                                   |                                                                                                                                                          |
|                         |                                         | IC5V OVP                                               | IC5V DC/DC                      | IC2403, IC2411                                                                                          |                                                                                                                                                          |
| 5 Y-DRIVE               | 50 Y DRIVE Assy                         | +16.5V OCP                                             | Y SUS BLOCK                     | IC2303 - IC2307 (mask module), IC2301, IC2304, R2309                                                    |                                                                                                                                                          |
| 6 Y-DCDC                | 50 Y DRIVE Assy                         | VOFS UVP                                               | VOFS DC/DC                      | IC2404, IC2412, Q2404, Q2407                                                                            |                                                                                                                                                          |
|                         |                                         | VOFS OVP                                               | VOFS DC/DC                      | IC2404, IC2412                                                                                          |                                                                                                                                                          |
|                         |                                         | VH OVP                                                 | VH DC/DC                        | IC2402, IC2410                                                                                          |                                                                                                                                                          |
| 7 Y-SUS                 | 50 Y DRIVE Assy                         | Power-down caused by detection of middle-point voltage | Y RESONANCE BLOCK               | Q2202, Q2214, Q2205, Q2206, Q2208, Q2209, Q2211, Q2212, IC2201, IC2202, Control signal series resistors |                                                                                                                                                          |
|                         | DIGITAL VIDEO Assy                      | Power-down caused by detection of middle-point voltage | DIGITAL VIDEO Assy              | IC5401, Control signal series resistors                                                                 |                                                                                                                                                          |
| 8 ADRS                  | 50 ADDRESS Assy                         | Disconnection of cable detected                        | CN1501                          |                                                                                                         |                                                                                                                                                          |
|                         |                                         | Power-down caused by detection of a power surge        | ADR RESONANCE BLOCK             | R1631, Q1601, D1602                                                                                     |                                                                                                                                                          |
|                         |                                         | Power-down caused by detection of middle-point voltage | ADR RESONANCE BLOCK             | Q1602, C1609, D1606, D1607                                                                              |                                                                                                                                                          |
| 9 X-DRIVE               | 50 X DRIVE Assy                         | Disconnection of cable detected                        | CN1001, CN1201                  |                                                                                                         |                                                                                                                                                          |
|                         |                                         | +16.5V OCP                                             | X SUS BLOCK                     | IC1203, IC1207 (mask module), IC1204, IC1206, R1230                                                     |                                                                                                                                                          |
|                         |                                         | VRN OCP                                                | X SUS BLOCK                     | Q1205, R1226, R1251                                                                                     |                                                                                                                                                          |
| 10 X-DCDC               | 50 X DRIVE Assy                         | VRN OVP                                                | VRN DC/DC                       | IC1403, IC1404                                                                                          |                                                                                                                                                          |
|                         |                                         | VRN UVP                                                | VRN DC/DC                       | IC1402, IC1403, IC1404                                                                                  |                                                                                                                                                          |
|                         |                                         |                                                        | X SUS BLOCK                     | Q1205, R1226, R1251                                                                                     |                                                                                                                                                          |
| 11 X-SUS                | 50 X DRIVE Assy                         | Power-down caused by detection of middle-point voltage | X RESONANCE BLOCK               | Q1102, Q1103, Q1105, Q1106, Q1108, Q1109, Q1111, Q1112, IC1101, IC1102, Control signal series resistors |                                                                                                                                                          |
|                         |                                         | Power-down caused by detection of middle-point voltage | DIGITAL VIDEO Assy              | IC5401, Control signal series resistors                                                                 |                                                                                                                                                          |
|                         |                                         | DIGITAL VIDEO Assy                                     | DCDC +3.3V, +1.5V OVP           | U5601 (DC DC CONVERTER Module)                                                                          |                                                                                                                                                          |
| 12 DIG-DCDC             | DIGITAL VIDEO Assy                      |                                                        |                                 |                                                                                                         | OVP : Over Voltage Protection<br>UVP : Under Voltage Protection<br>OCP : Over Current Protection                                                         |



■ Data on temperature (INFORMATION-TEMPERATURE)

The data on the current temperatures are displayed.  
The temperature at the PANEL SENSOR ASSY of the PDP-434P/PDP-504P is indicated as the TEMP 1 value (000-255), which should be converted using the following formula:  
Current temperature (°C) ≒ 0.65 × TEMP 1 value - 52

**Note:** Shutdown caused by high TEMP 1 value  
PDP-434P: TEMP 1 value > 200 (≒ 77°C)  
PDP-504P: TEMP 1 value > 209 (≒ 83°C)

|    |   |   |    |    |    |    |    |    |    |
|----|---|---|----|----|----|----|----|----|----|
|    | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1  |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
| 5  |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
| 10 |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
|    |   |   |    |    |    |    |    |    |    |
| 15 |   |   |    |    |    |    |    |    |    |
| 16 |   |   |    |    |    |    |    |    |    |

**Note:** To update the data on temperature, use the Left and Right keys on the remote control unit.

## 7.1.4 TROUBLE SHOOTING

### [ Diagnosis of abnormalities other than shutdown and power-down ]

| Symptom                                                                                   | Defective Assy | Possible Cause               | Check Point      | Possible Defective Part | Remarks                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------|----------------|------------------------------|------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No power (both red and green LEDs unlit)                                                  |                | Cable disconnection          | CN4001           |                         | Check if the connection between the POWER SUPPLY and PANEL IF assemblies is properly made.                                                                                                      |
| No power (green LED not lit)                                                              |                | Defective 114-pin FPC        | CN4004 - CN5001  | ADY1081                 | Check if the FPC is broken or not securely inserted.                                                                                                                                            |
| No power (both red and green LEDs lit)                                                    |                | Detection by the TRAP switch | CN4006           |                         | Check if the TRAP switch is properly set.<br>(See "7.1.4 Canceling detection of the TRAP switch".)                                                                                              |
| The power is (sometimes) interrupted.                                                     |                | Defective TRAP switch        |                  | ASG1089                 | Check if the unit works properly when detection of the TRAP switch is canceled. (See "7.1.4 Canceling detection of the TRAP switch".)                                                           |
| The power is interrupted, and the red and green warning indications appear on the screen. |                | Defective system cables      | CN4002, CN4003   |                         | Check if the system cables are securely connected. (See "7.1.5 Operation when the Media Receiver is not connected".)                                                                            |
|                                                                                           |                | System cables not connected  |                  |                         | Check connection of the system cables. (See "7.1.5 Operation when the Media Receiver is not connected".)                                                                                        |
| Key input not effective                                                                   |                | Cable disconnection          | CN4801 - CN4851  | ADD1225                 | Check if the FPCs are properly connected. Check if imparting vibration to the unit affects key inputs. Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed. |
|                                                                                           |                | Cable disconnection          | CN4852 - CN4010  |                         | Check if the cables are disconnected or not securely connected. Check if a pulse is output when the key corresponding to Pin 5 of the CN4010 is pressed.                                        |
|                                                                                           | KEY CONTROL    | Defective KEY SCAN IC        | KEY CONTROL Assy | IC4851                  | Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed.                                                                                                        |
| Remote control unit not effective                                                         |                | Cable disconnection          | CN4901 - CN4010  |                         | Check if the cables are not connected or securely connected.                                                                                                                                    |
|                                                                                           |                |                              |                  |                         | Check if the FPCs are properly connected.                                                                                                                                                       |
|                                                                                           | PANEL IR       | Defective Infrared receiver  | PANEL IR         | U4901                   | Check if a pulse is output when the key corresponding to Pin 3 of the CN4010 is pressed.                                                                                                        |
| Abnormality in a one-eighth area of the screen                                            | DIGITAL VIDEO  | Defective IC4                | IC4 BLOCK        | IC5401                  | Check if an abnormal area in the screen changes when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address.            |
|                                                                                           | ADDRESS        |                              |                  |                         | Check that an abnormal area in the screen does not change when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address.  |
| Abnormal screen<br>(Data of every other dot are abnormal)                                 |                | Defective 114-pin FPC        | CN4004 - CN5001  | ADY1081                 | Check if the FPC is broken or not securely inserted.                                                                                                                                            |

## 7.1.5 CANCELING DETECTION BY THE TRAP SWITCH

### • Canceling detection by the TRAP switch

**Outline:** For video data transmission from the Media Receiver to the plasma display, digital signals are used. Therefore, this unit adopts the HDCP (High-bandwidth Digital Content Protection) system for copyright protection. This unit is also provided with a detection switch (TRAP switch) that will prohibit the unit from being turned on again if the rear case of the unit is opened, in order to prevent the panel technology from being leaked out.

**Function:** To deactivate the detection of the TRAP switch

**Purposes:** 1. During production of this unit, adjusting with the rear cover opened is possible.  
2. During servicing or repairing, diagnoses of the assemblies are possible while the power is on.

**Methods:** For setting, use RS232C commands:

TSN: Ignore the monitoring of the switch

CTM: Clear the detection log of the switch

TSY: Reactivate monitoring of the switch

**Notes:**

- The TRAP switch is located on the chassis (see Fig. below).
- Once rear case opening is detected, send the TSN and CTM commands.
- Because the TSN command is not stored in memory, monitoring of the switch can be reactivated by turning the unit off then back on.
- The same setting is possible using the Factory menu.
- Because the output of the DVI receiver is controlled by the physical setting of the TRAP switch, if the TRAP switch is set to OPEN, the DVI signal cannot be output even if the TSN command is sent.
- When the Media Receiver is connected, detection by the TRAP switch can be canceled by entering Factory mode.

### ● How to enter Factory mode using the remote control unit

Please refer to the technical documentation (Service knowhow).

### ● How to clear the detection log of the TRAP switch

In the INITIALIZE layer, hold the OSD key on the remote control unit pressed for at least 3 seconds.

### ● After a power-down, to cancel detection of the TRAP switch using only the remote control unit, follow the procedures below.

First, fix the TRAP switch to its depressed position. Set the drive ON/OFF switch in the DIGITAL VIDEO Assy to OFF, Then enter the Factory mode. Press the MUTE key four times, then hold the OSD key pressed for at least 3 seconds. Set the AC switch on the panel to OFF. The log is also cleared. Then set the drive ON/OFF switch to ON.

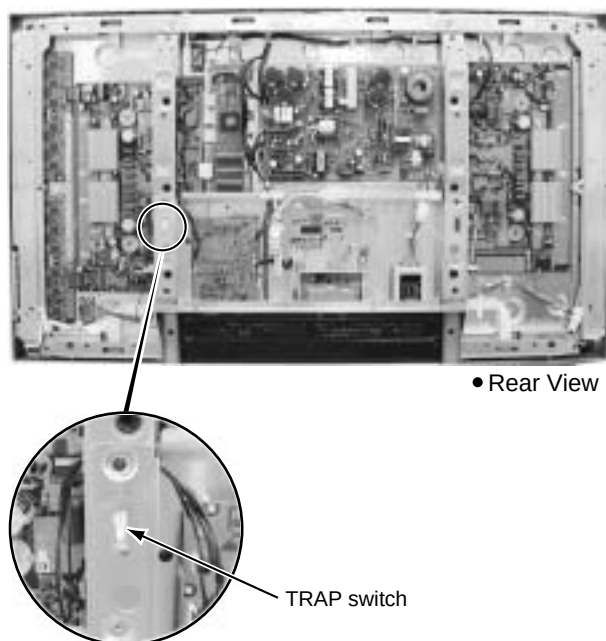
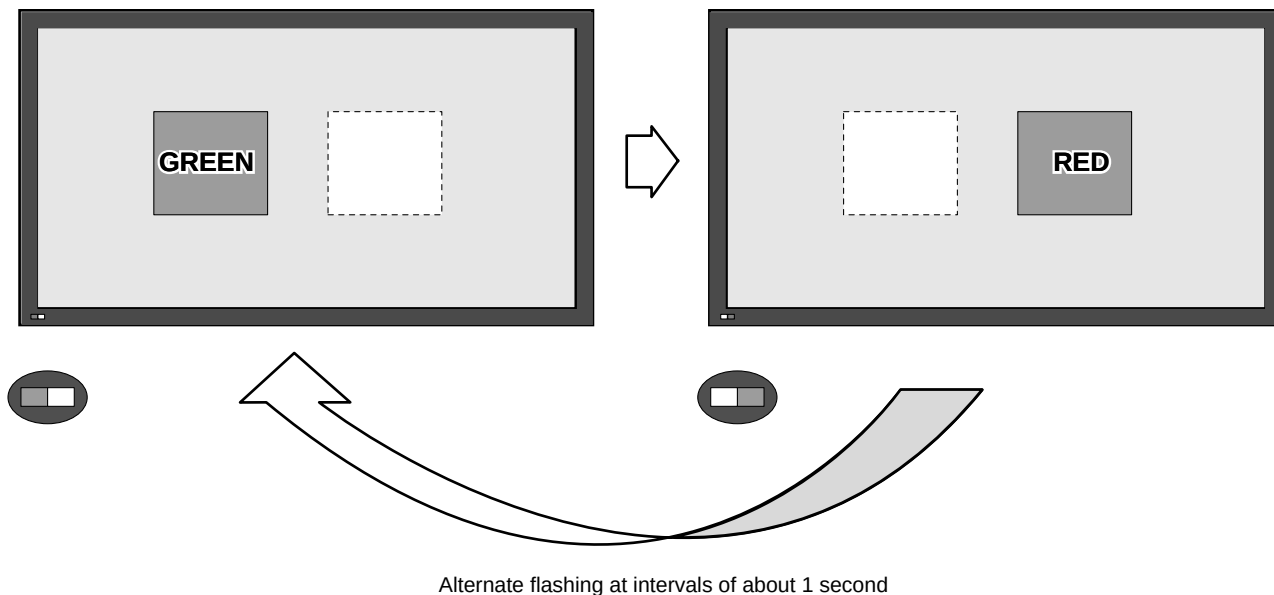


Fig. TRAP switch

## 7.1.6 OPERATION WHEN THE MEDIA RECIVER IS NOT CONNECTED

As the connection conditions of the system cables (MDR cable, DVI cable) are usually detected, if no connection, such as cable disconnection, is detected, a warning indication (alternate flashing of the red and green areas) is displayed on the mask screen, and the red and green LEDs flash alternately. Then after about 30 seconds, the power is automatically turned off.

**Note:** Only when the power is turned on again, a warning indication on the mask screen restarts. During standby, only the red and green LEDs flash alternately.



To operate the panel without the Media Receiver, there are the following two ways:

### 1. Operation-without-the-Media-Receiver mode

Input the "SCN" RS232C command. The status of the LEDs changes to that in normal operation mode.

**Note:** Turning the AC switch to OFF then ON also maintains this mode. However, once the unit is connected with the Media Receiver using the MDR cable, this mode is automatically canceled.

### 2. DVI mode

Turn the unit on while PC and DVI SG signals are being input with only the DVI connector connected. After a warning is displayed for about 5 seconds, the unit is ready to display the screen of the input signal. (Green LED lit)

Notes: • Although the output from XGA (43 inch) and WXGA (50 inch) can be input to the unit, this is not a mode open to general users.

(With some signals, errors such as power-down may occur.)

• If a DE signal from the SG is not input during DVI mode, the green LED flashes (at intervals of 2 sec) for about 8 seconds, then the unit shifts to Power Management mode (the green LED lights).

## 7.1.7 TEMPERATURE-COMPENSATION FUNCTION OF THE DRIVE-SYSTEM VOLTAGE

**Function:** To control the DRIVE-system voltage according to the temperature (Temperature compensation functions such that the voltage is lowered on the lower-temperature side and the voltage becomes higher on the higher-temperature side.)

**Purpose:** For improving the yield by compensating for the temperature characteristics of the panel

**Note:** Temperature compensation is performed only for the VSUS voltage, and not for the VOFS voltage. This compensation is controlled by the software.

## 7.1.8 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

**Function:** Only the power for the small-signal system (16.5 V, 12 V, and 6.5 V) is on, and the power for the large-signal system (VSUS, VADR) is off.

**Usage:**

1. Use when only an operational check for the small-signal system is required, such as when making repairs.
2. Use when rewriting of a program for each microcomputer is required.

**Methods:**

- 1 Set the slide switch (S5201) on the DIGITAL VIDEO Assy to its upper position (see Fig. below).
2. Send the "DRF" RS232C command to turn the large-signal system off.
3. Send the "DRN" RS232C command to turn the large-signal system on.

**Notes:**

- As the unit enters Power-Down and Muting On mode when Methods 1 and 2 are performed, and power-downs other than those caused by the power (PS\_PD) and DC-DC-converter (DIGITAL\_DC-DC) circuits are not activated.
- If the slide switch is set from OFF to ON while the power is on, a power-down will occur. Be sure to turn the power off before switching the slide switch.

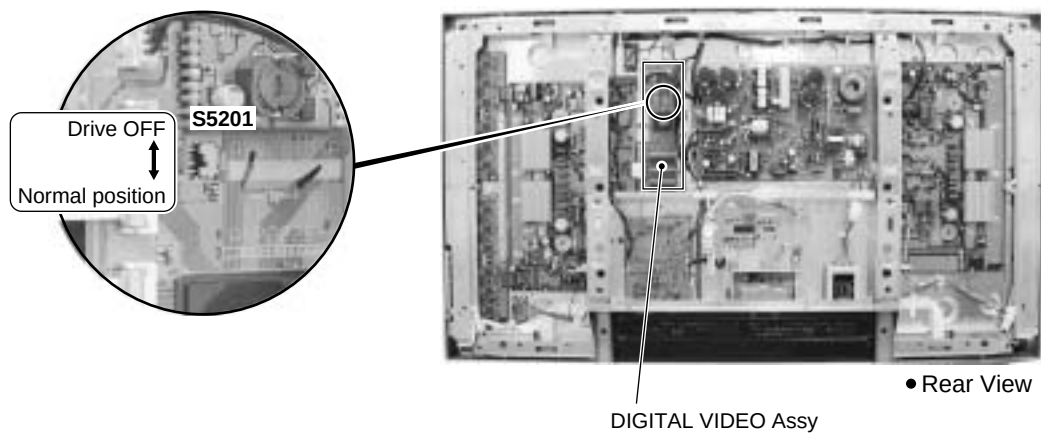


Fig. Drive OFF switch

## 7.1.9 BACKING UP THE ADJUSTMENT VALUES FOR THE MAIN UNIT

### ■ Outline

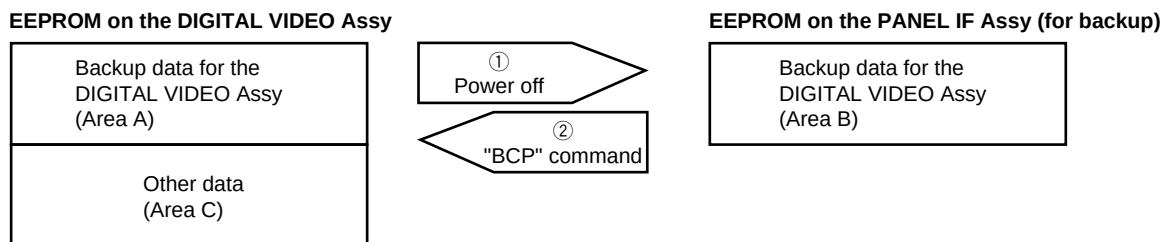
The data on the adjustment values for the main unit are stored in an EEPROM (IC5206, 4 kbits) on the DIGITAL VIDEO Assy. Part of the data (area A in the figure below) are automatically copied to an EEPROM (IC4002, 2 kbits) mounted on the PANEL IF Assy for backup. When the DIGITAL VIDEO Assy is replaced, the backup data on the adjustment values for the main unit stored in the PANEL IF Assy can be copied to the new DIGITAL VIDEO Assy, thus enabling you to omit newly performing adjustments on the main unit. The logs for the product (power-down log, etc.) can also be copied.

### ■ Data to be backed up in the digital EEPROM (area A)

- Margin adjustment values (V<sub>sus</sub>, V<sub>ofset</sub>)
- Power upper-limit adjustment value (ABL)
- PANEL white-balance adjustment values  
(PANEL-R HIGH, PANEL-G HIGH, PANEL-B HIGH, PANEL-R LOW, PANEL-G LOW, PANEL-B LOW)
- Drive waveform adjustment values  
(X-SUS-U1, X-SUS-U2, X-SUS-D1, X-SUS-D2, Y-SUS-U1, Y-SUS-U2, Y-SUS-D1, Y-SUS-D2, Y-SUS-D3, Y-SUS-D4)
- Hour meter
- Pulse meter
- Number of times the power has been turned on
- PD/SD logs

### ■ Basic flow of automatic backup

Using a keyword, the data in areas A and B are judged as to whether they have been adjusted or not, then copying is performed.

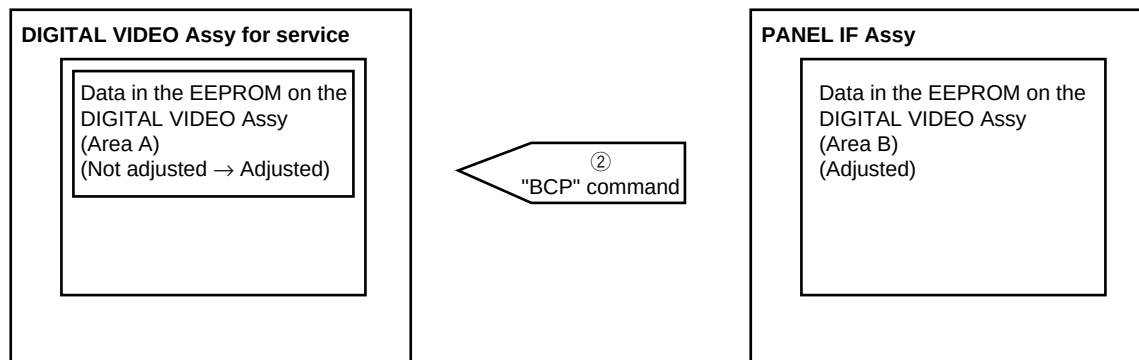


- ① The keyword on the DIGITAL VIDEO Assy is checked when the power is turned off, and if it is "adjusted", automatic backup is performed.
- ② If the keyword on the PANEL IF Assy (Area B) is "adjusted," copying can be performed with the "BCP" RS232C command.

### ■ Actual automatic backup operations

1. When the DIGITAL VIDEO Assy is replaced with an Assy for service

Changing of keywords is not required. Replace the DIGITAL VIDEO Assy with an Assy for service, and send the "BCP" RS232C command. Thus, the backup data in the EEPROM on the PANEL IF Assy are copied to the EEPROM on the DIGITAL VIDEO Assy for service.



2. When a repaired DIGITAL VIDEO Assy is mounted on another unit (reuse of the repaired DIGITAL VIDEO Assy)

The keyword of the DIGITAL VIDEO Assy to be reused must be changed to "not adjusted" using the "UAI" RS232C command.

Note 1: If a repaired DIGITAL VIDEO Assy is mounted in another unit (Unit 2) without this change of keyword, and the power to the unit 2 is turned off, the data in force before the repair of the DIGITAL VIDEO Assy will be copied to Area B of the PANEL IF Assy of Unit 2, overwriting the data necessary for Unit 2. Once overwritten, the original data will not be restored.

3. When a repaired DIGITAL VIDEO Assy is mounted on the original unit (reuse of the repaired DIGITAL VIDEO Assy)  
Changing of keywords is not required. After the repaired DIGITAL VIDEO Assy is mounted in the original unit, the unit can operate with its latest adjustment values.

4. When both the DIGITAL VIDEO Assy and PANEL IF Assy are simultaneously replaced with other assemblies  
The automatic backup function of this unit will not work properly.

Note 2: Readjustment of the main unit is required.

Note 3: After readjustment of the main unit, send the "FAJ" RS232C command to change the keyword of the DIGITAL VIDEO Assy to "adjusted." Thus, when the unit is turned off, automatic backup of adjustment data is performed properly.

Note 4: If readjustment of the main unit is totally impossible, it can be omitted by installing the EEPROM (IC5206, 4 kbits) originally mounted on the DIGITAL VIDEO Assy for service.

## Miscellaneous

If the white balance (W/B) value is largely shifted because of aging, etc., W/B adjustment is required. (As this may be a rare case, the adjustment procedures are described below, just for your reference.

### [ W/B-adjustment procedures ]

The W/B adjustment can be performed with the RS232C commands with the Media Receiver not connected to this unit. The GGF1475 special communication tool and a Minolta CA-100 color difference meter are required.

- ① Enter Operation-without-the-Media-Receiver mode with the "SCN" RS232C command.
- ② Set the keyword for the DIGITAL VIDEO Assy to "not adjusted" with the "UAJ" RS232C command.
- ③ Obtain the current adjustment values in the two adjustment tables (see "6.2.1 RS232C commands").
  - Shifting to Table 1: Send the "M51" and "F60" commands. Obtaining the adjustment values: Send the "GPW" command.
  - Shifting to Table 2: Send the "M51" and "F75" commands. Obtaining the adjustment values: Send the "GPW" command.
- ④ Make settings for various functions.  
Send the "PPN," "SDN," "SPN," and "WAY" commands.  
**Note:** After adjustment, when the POWER switch is set to OFF, these settings will be reset to the initial values.
- ⑤ For each table, set the brightness.
  - Adjustment in Table 1: After sending the "F60" command, perform adjustment.
  - Adjustment in Table 2: After sending the "F75" command, perform adjustment.

For each table, change the RGB parameters so that the values measured using a Minolta color difference meter (CA-100) become as indicated below. In this case, any one of PRH, PGH, or PBH must be set to 256.

|   | Left side of Mask H | Right side of Mask H |
|---|---------------------|----------------------|
| x | —                   | 284                  |
| y | —                   | 292                  |

"PRH\*\*\*\*" : 000 - 511  
 "PGH\*\*\*\*" : 000 - 511  
 "PBH\*\*\*\*" : 000 - 511

- ⑥ Check after adjustment
  - Shifting to Table 1: Send the "F60" command. Obtaining the adjustment values: Send the "GPW" command.
  - Shifting to Table 2: Send the "F75" command. Obtaining the adjustment values: Send the "GPW" command.

Check that the adjustment data have been changed.
- ⑦ Change the keyword for the DIGITAL VIDEO Assy to "adjusted" by sending the "FAJ" RS232C command.  
**Note:** Use a Minolta CA-100 color difference meter or the equivalent for measurement. Otherwise, the specifications of the product cannot be assured.

## 7.1.10 DISASSEMBLY

### 1 Rear case (50P), Front case Assy (50P)

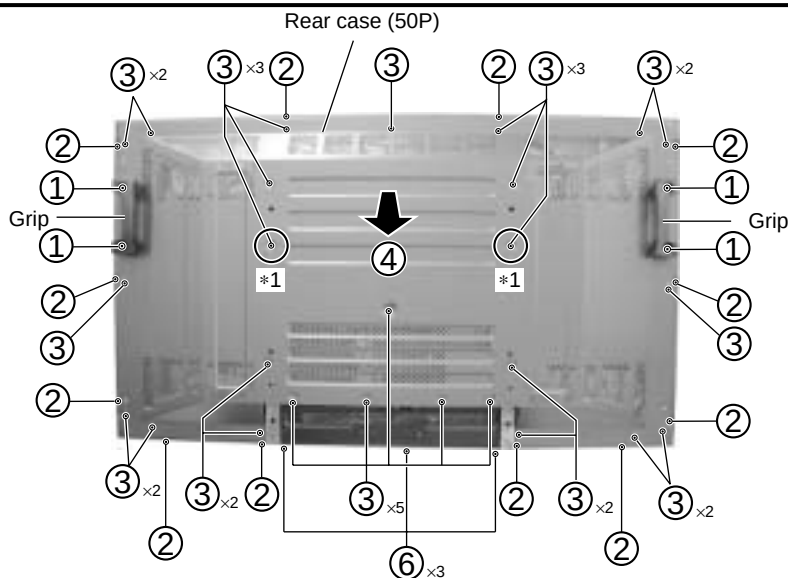
① Remove the grip by removing the 4 screws.

② Remove the 12 screws (B tight).

③ Remove the 16 screws (M screws).

Note: At the time of a re-assembly, please attach after fixing a positioning hole previously.

④ Remove the rear case (50P).



⑤ Remove the 3 screws (B tight).

⑥ Remove the flexible cable (J211) from the PANEL KEY Assy.

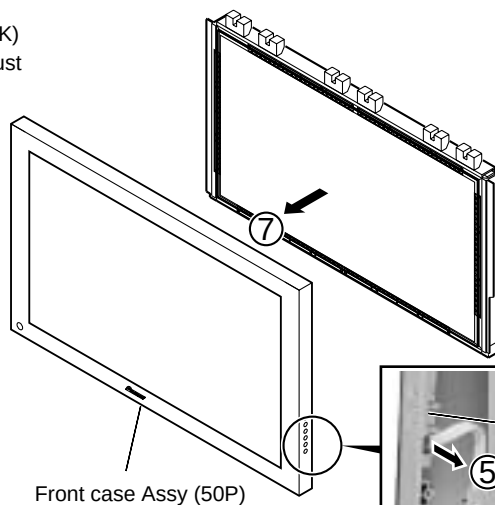
⑦ Remove the front case (50P).

#### Note:

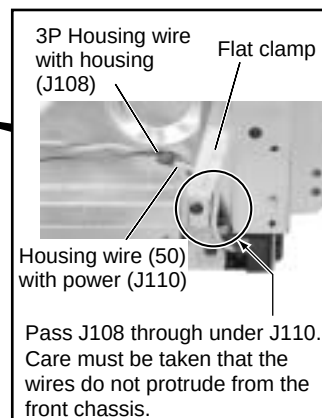
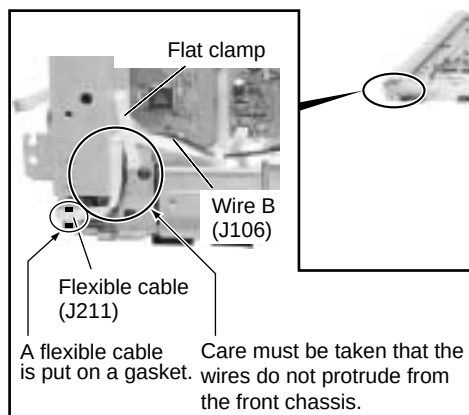
As the screws used for the front case are B tight (ABZ30P100FZK) and other screws used are M screws (AMZ30P060FZK), care must be taken not to use the screws in the wrong places.

#### • When only the front case Assy (50P) is removed

② → ⑤ → ⑥ → ⑦

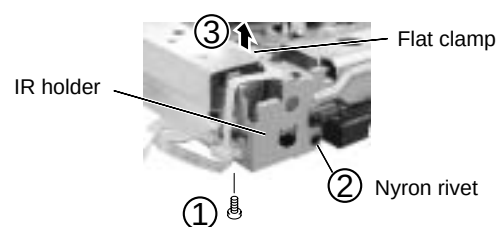


#### • Notes when reassembling the rear case (50P)

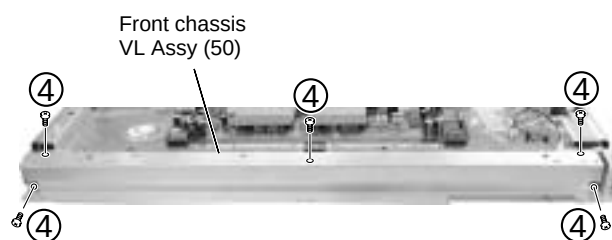


## 2 Front chassis VL Assy (50), Front chassis VR Assy (50)

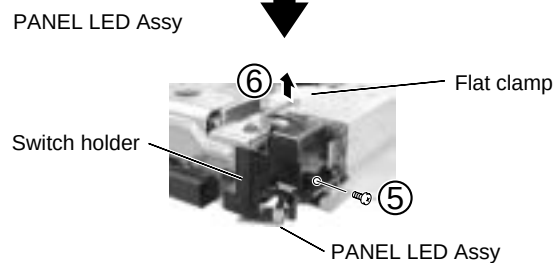
- ① Remove the front case, then remove the screw that secures the IR holder.
- ② Remove the nylon rivet, then remove the IR holder.
- ③ Remove the flat clamp, then remove the wires.



- ④ Remove the front chassis VL Assy (50), by removing the 5 screws (M screws).

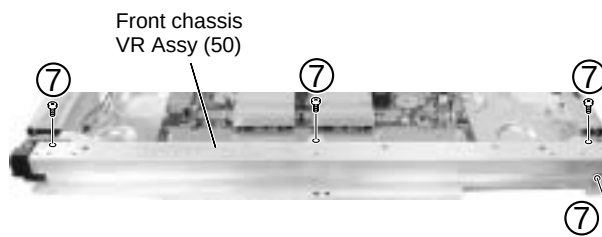


- ⑤ Remove the PANEL LED Assy, by removing the screw (M screw). If the screw is not removed, the connectors on the PANEL LED Assy may be damaged.



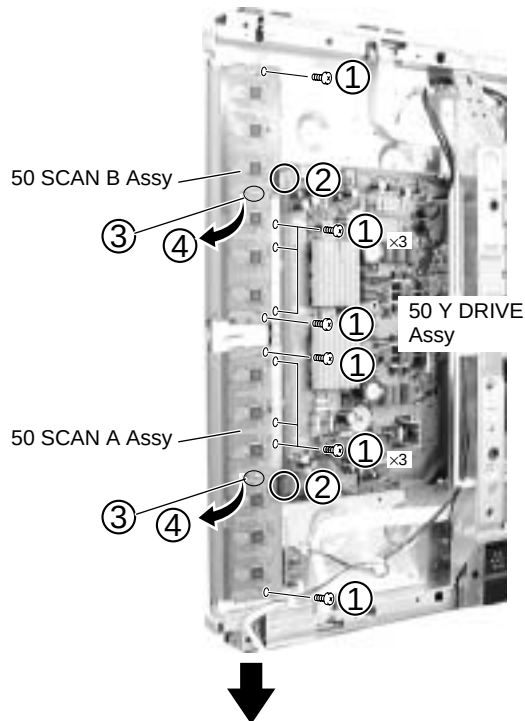
- ⑥ Remove the thin clamp, then remove the wires.

- ⑦ Remove the front chassis VR Assy (50), by removing the 4 screws (M screws).

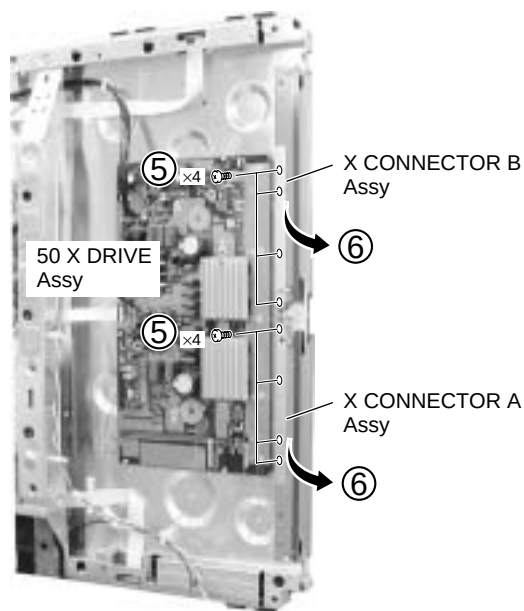


### 3 50 SCAN A, B, X CONNECTOR A and B Assemblies

- ① Remove the 10 screws (M screws).
- ② Remove the 2 pin connectors.
- ③ Remove the Spacer.
- ④ Remove the 50 SCAN A and B Assemblies.

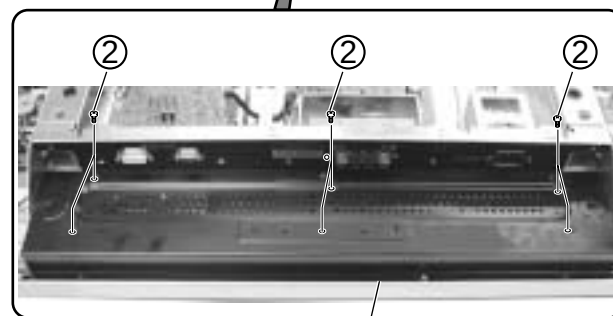
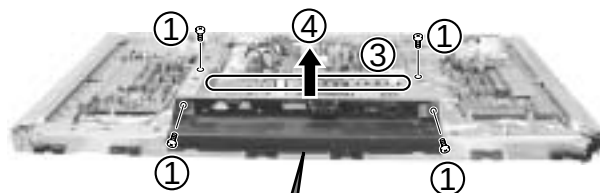


- ⑤ Remove the 8 screws (M screws).
- ⑥ Remove the X CONNECTOR A and B Assemblies.

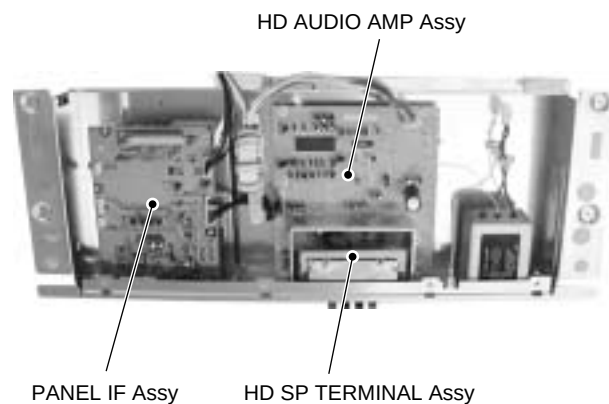


### 4 Multi base section

- ① Remove the 4 screws (M screws).
- ② Remove the 6 screws (M screws).
- ③ Remove the some connectors.
- ④ Remove the multi base section.



#### • PCB Location for multi base section



## 7.2 IC INFORMATION

The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

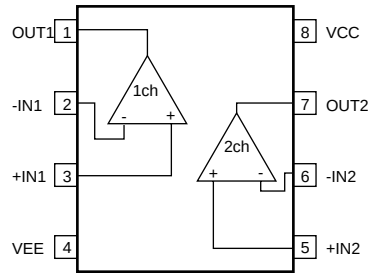
### ► List of IC

BA10393F, BA10358F, BA8274F, NJM2195L, MBM29PL160BD, SII169CTG100, STK795-512, STK795-511, LA4625, M30626FHPGP, PD5856A, AN16003A-K, BD3869AS

### ■ BA10393F (50 X DRIVE ASSY: IC1103) (50 Y DRIVE ASSY: IC2211)

- Comparator IC

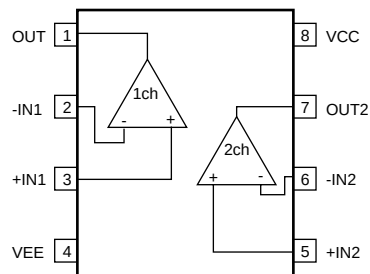
### ► Pin Arrangement (Top view) / Block Diagram



### ■ BA10358F (50 Y DRIVE ASSY: IC2406)

- OP-AMP IC

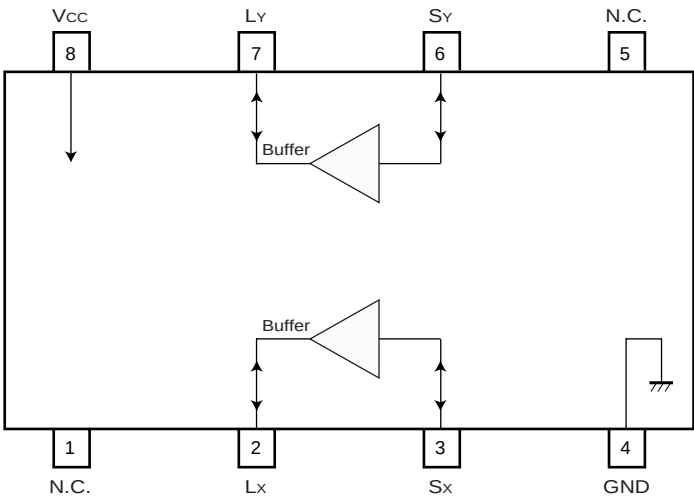
### ► Pin Arrangement (Top view) / Block Diagram



■ **BA8274F (PANEL IF ASSY: IC4206)**

• I<sup>2</sup>C Bus Interface IC

● **Block Diagram**



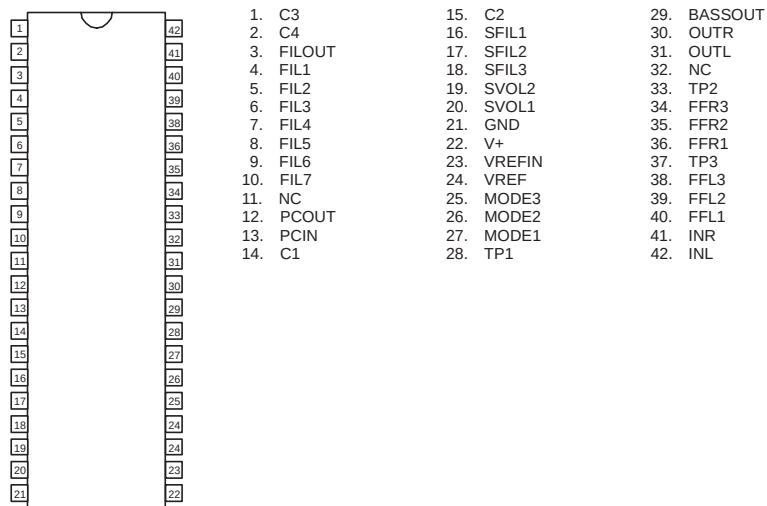
● **Pin Function**

| Pin No. | Pin Name | Equivalent Circuit | Pin Function  |
|---------|----------|--------------------|---------------|
| 2<br>7  | Lx<br>Ly |                    | Buffer output |
| 3<br>6  | Sx<br>Sy |                    | Buffer input  |
| 4       | GND      | —                  | Ground        |
| 8       | Vcc      | —                  | Power supply  |

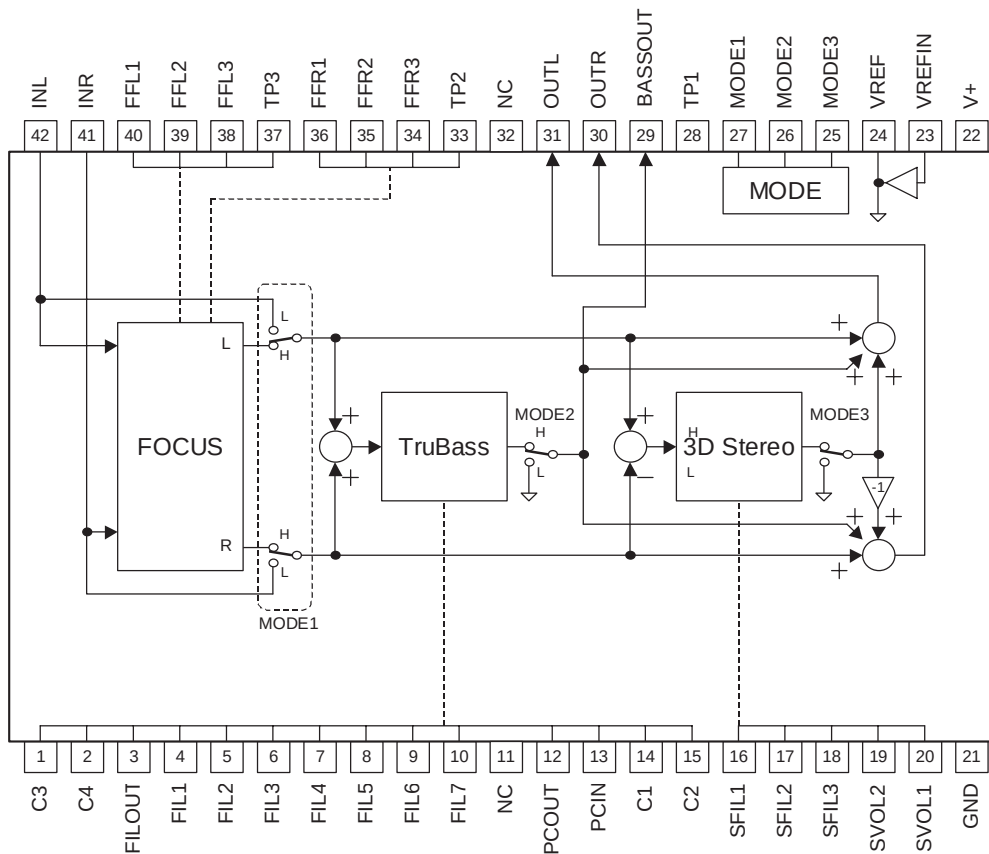
## ■ NJM2195L (HD AUDIO AMP ASSY: IC3501)

- Focus and SRS IC

### ● Pin Arrangement (Top view)



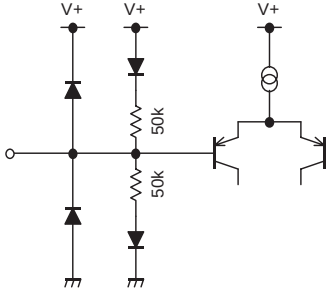
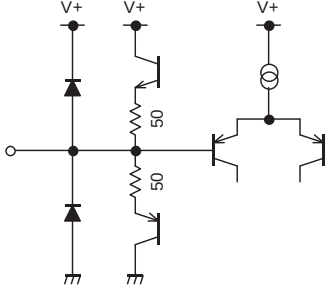
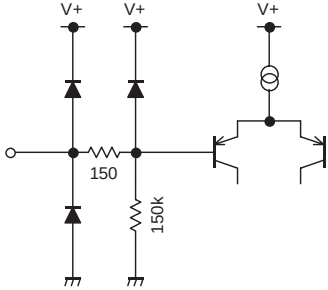
### ● Block Diagram



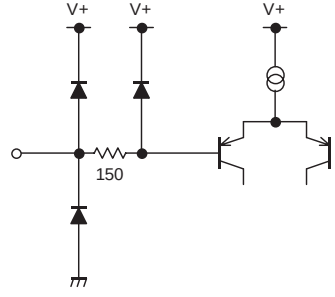
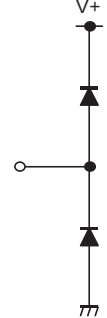
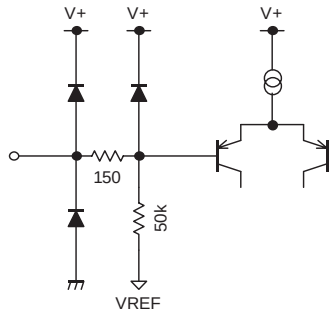
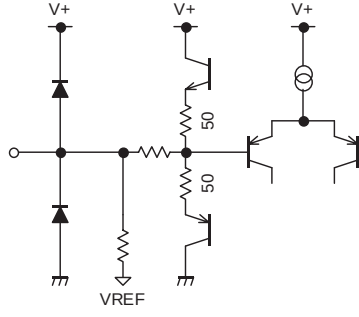
● Pin Function

| No.            |                |                | Pin Name                |             | Equivalent Circuit |      |
|----------------|----------------|----------------|-------------------------|-------------|--------------------|------|
| SDIP42         | SOP40          | QFP48          |                         |             |                    |      |
| 14             | 13             | 9              | C1                      |             |                    | 0V   |
| 15             | 14             | 10             | C2                      |             |                    | 0V   |
| 16<br>17<br>18 | 15<br>16<br>17 | 11<br>14<br>15 | SFIL1<br>SFIL2<br>SFIL3 |             |                    | V+/2 |
| 19<br>2<br>5   | 18<br>2<br>5   | 16<br>44<br>47 | SVOL2<br>C4<br>FIL2     | WIDTH<br>VR |                    | V+/2 |

● Pin Function

| No.                                   |                                       |                                        | Pin Name                                                  |                       | Equivalent Circuit                                                                   |      |
|---------------------------------------|---------------------------------------|----------------------------------------|-----------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------|------|
| SDIP42                                | SOP40                                 | QFP48                                  |                                                           |                       |                                                                                      |      |
| 21                                    | 20                                    | 18                                     | GND                                                       | GND                   |   | 0V   |
| 22                                    | 21                                    | 19                                     | V+                                                        |                       |   | V+   |
| 23                                    | 22                                    | 20                                     | VREFIN                                                    |                       |    | V+/2 |
| 24<br>29<br>30<br>31<br>36<br>40<br>3 | 23<br>28<br>29<br>30<br>34<br>38<br>3 | 21<br>28<br>29<br>30<br>34<br>40<br>45 | VREF<br>BASSOUT<br>OUTR<br>OUTL<br>FFR1<br>FFL1<br>FILOUT | TruBass<br>Rch<br>Lch |  | V+/2 |
| 25<br>26<br>27                        | 24<br>25<br>26                        | 22<br>23<br>26                         | MODE3<br>MODE2<br>MODE1                                   | 3<br>2<br>1           |  | 0V   |

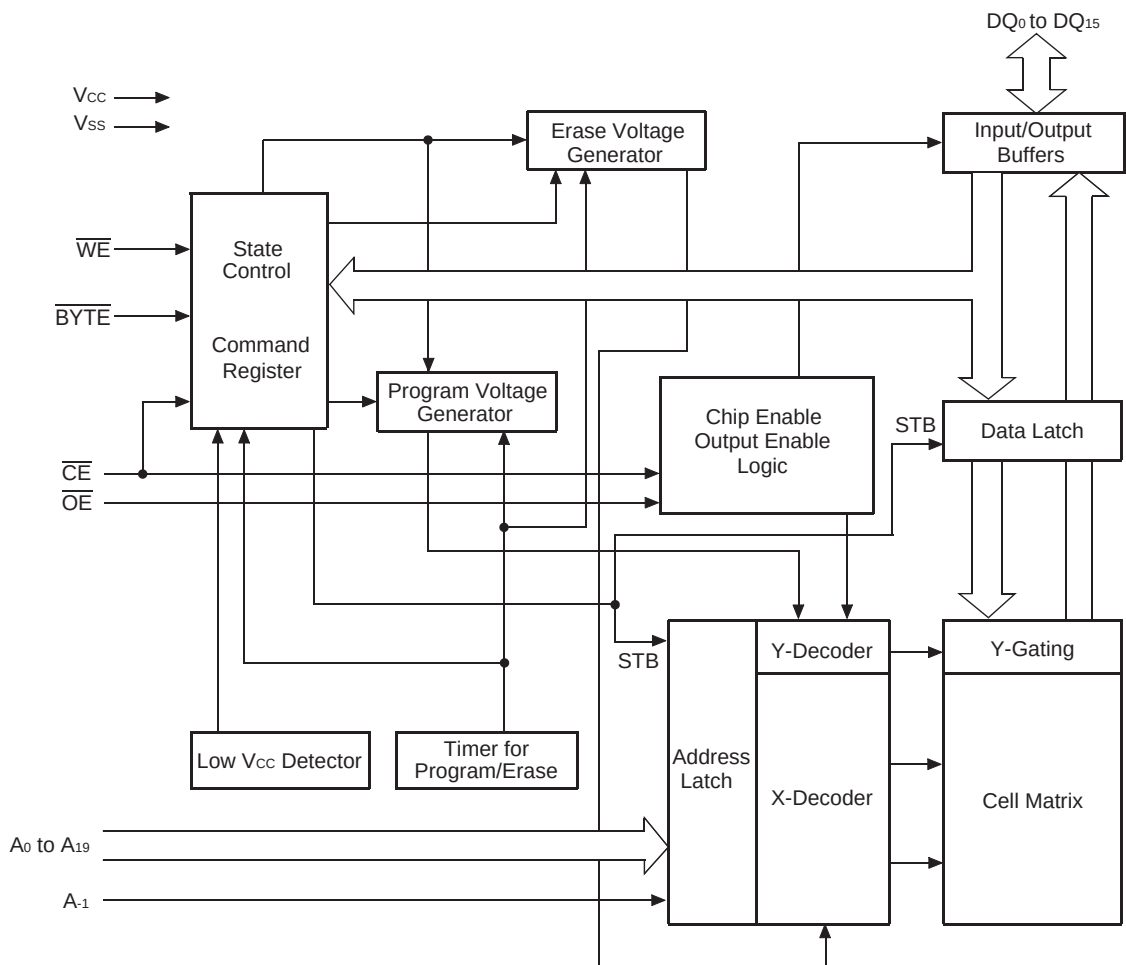
● Pin Function

| No.            |                |                | Pin Name            |            | Equivalent Circuit                                                                   |      |
|----------------|----------------|----------------|---------------------|------------|--------------------------------------------------------------------------------------|------|
| SDIP42         | SOP40          | QFP48          |                     |            |                                                                                      |      |
| 28<br>35<br>39 | 27<br>33<br>37 | 27<br>33<br>39 | TP1<br>FFR2<br>FFL2 |            |    | V+/2 |
| 33<br>37       | 31<br>35       | 31<br>35       | TP2<br>TP3          |            |     | -    |
| 41<br>42       | 39<br>40       | 41<br>42       | INR<br>INL          | Rch<br>Lch |  | V+/2 |
| 4              | 4              | 46             | FIL1                |            |  | V+/2 |

## ■ MBM29PL160BD (DIGITAL VIDEO ASSY: IC5303)

- Flash Memory IC

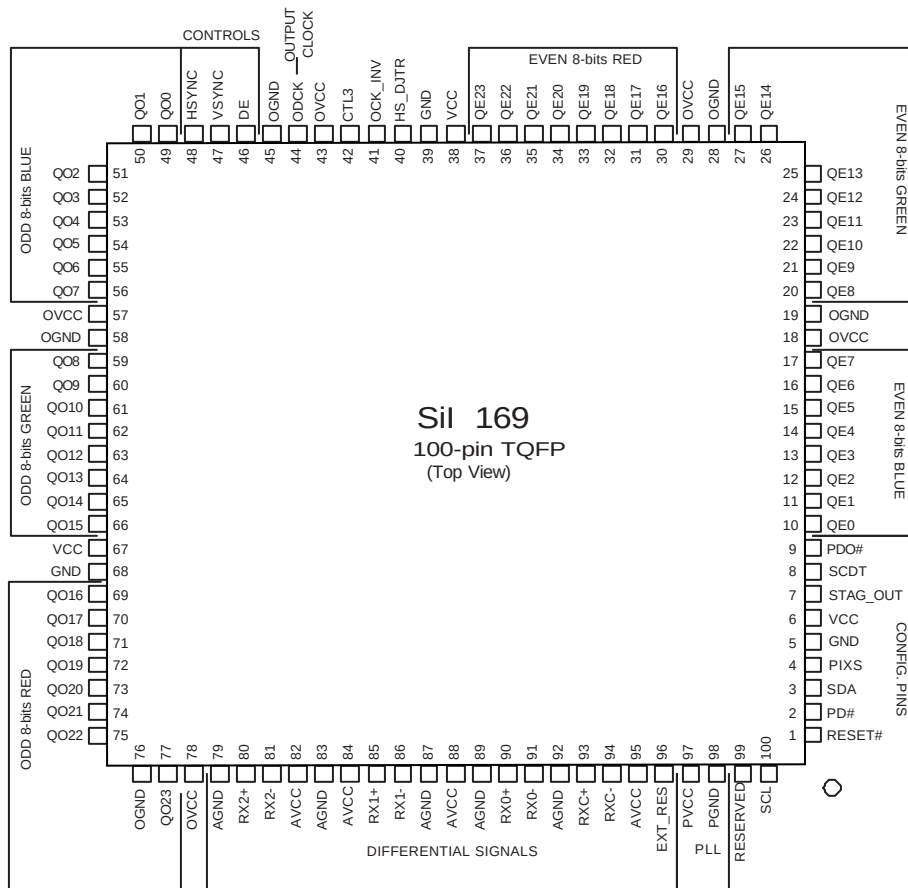
### ● Block Diagram



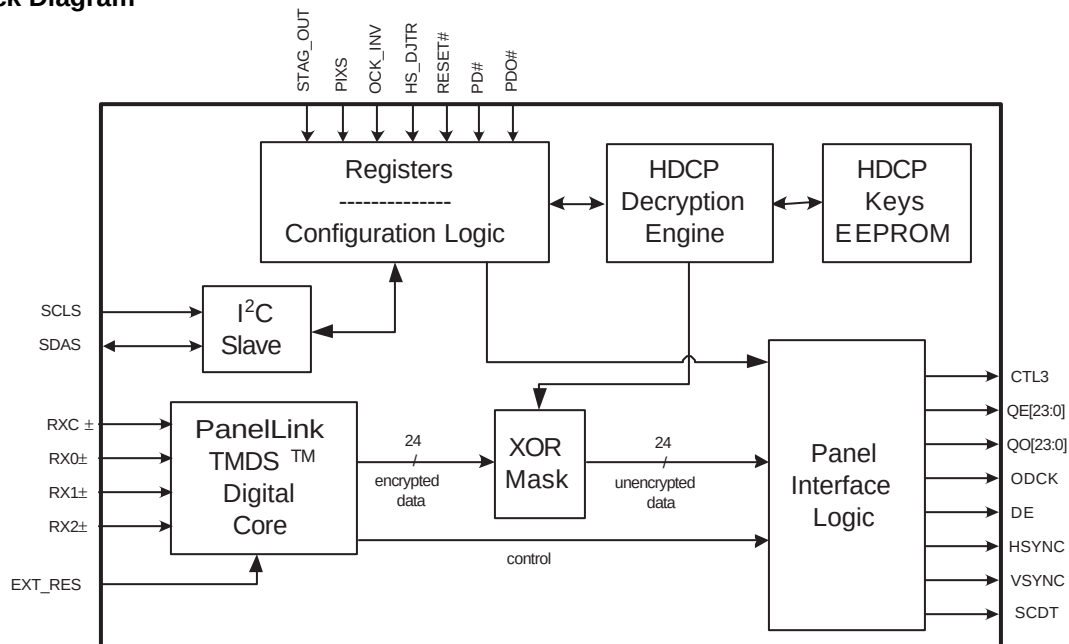
## ■ SII169CTG100 (PANEL IF ASSY: IC4202)

- Receiver IC

### ● Pin Arrangement (Top view)



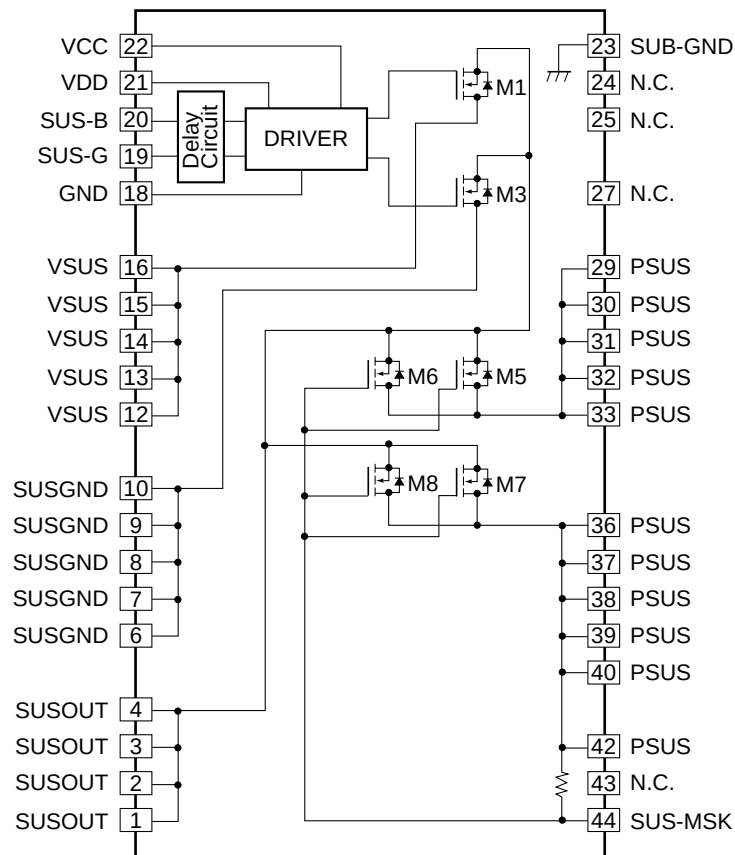
### ● Block Diagram



■ STK795-512 (50 X DRIVE ASSY: IC1203, IC1207)

## PDP Mask Module IC

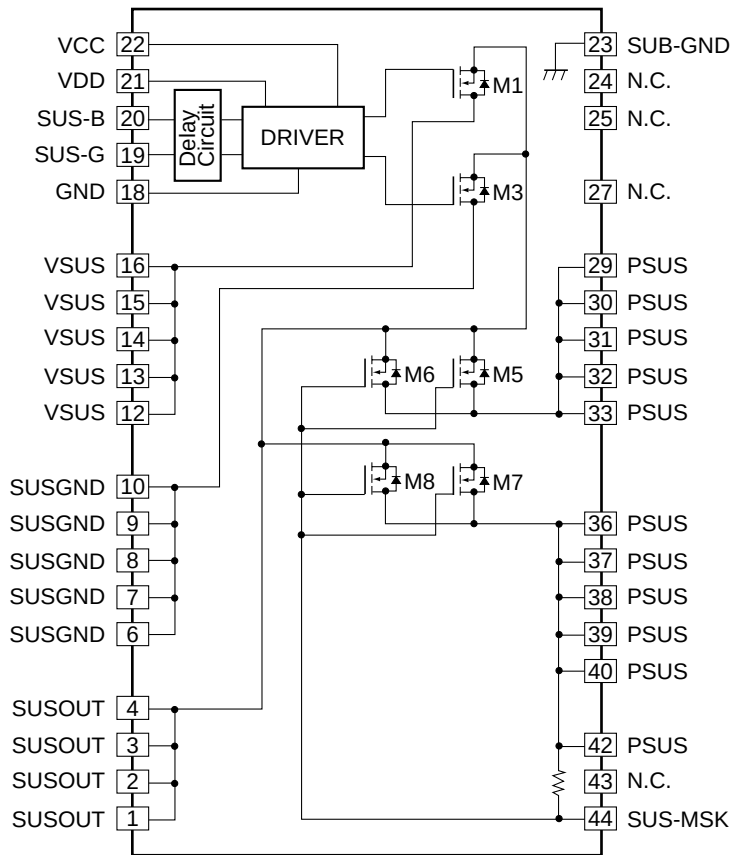
- **Block Diagram**



**STK795-513 (50 Y DRIVE ASSY: IC2303, IC2307)**

PDP Mask Module IC

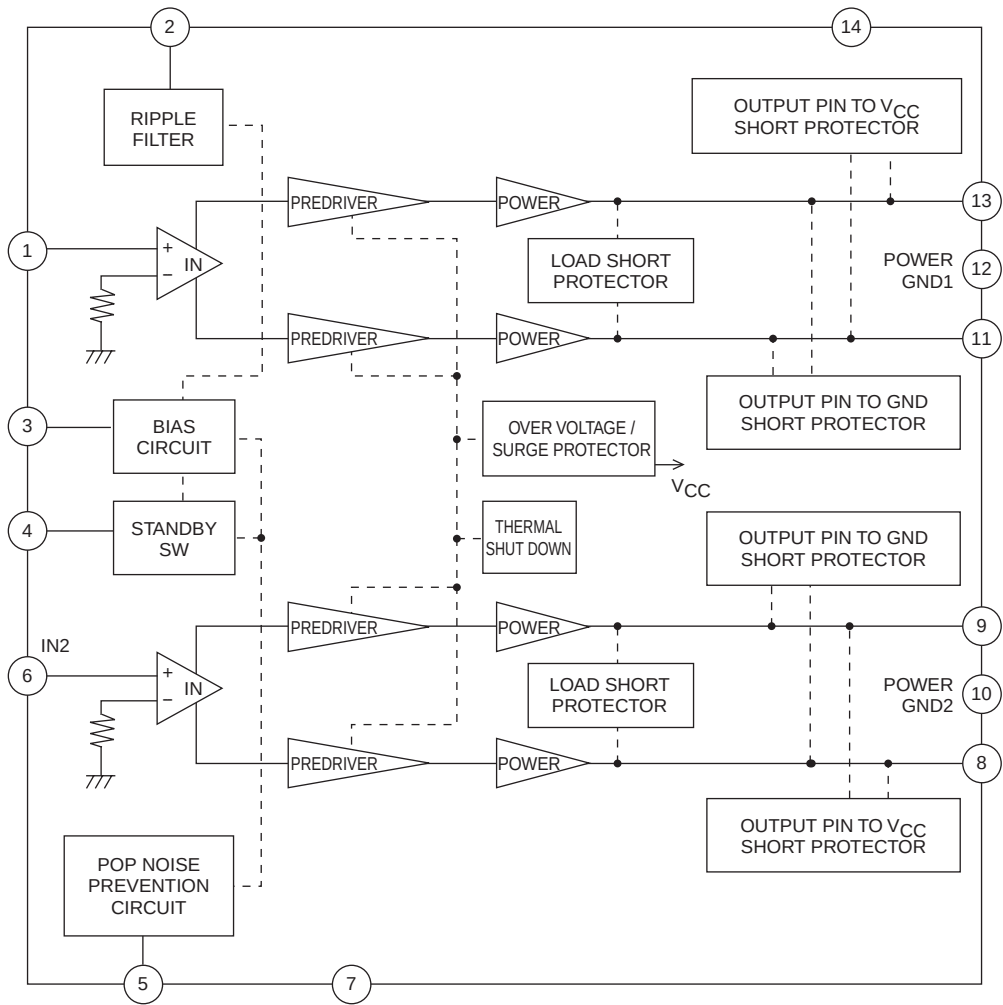
## ● Block Diagram



# LA4625 (HD AUDIO ASSY: IC3504)

• 2ch BTL AF Power Amp IC

## ● Block Diagram



## ■ M30626FHPGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

### ● Pin Function (1/2)

| No. | Pin Name | Function                                                            | I/O | ACTIVE |
|-----|----------|---------------------------------------------------------------------|-----|--------|
| 1   | VSUS     | [D/A] Vofs power control                                            | O   |        |
| 2   | VOFS     | [D/A] Vofs power control                                            | O   |        |
| 3   | TXD_IC4  | 3 serial communication with IC4MANTA - data transmission            | O   |        |
| 4   | RXD_IC4  | 3 serial communication with IC4MANTA - data receive                 | I   |        |
| 5   | CLK_IC4  | 3 serial communication with IC4MANTA - clock output                 | O   |        |
| 6   | BYTE     | (GND connection)                                                    | I   |        |
| 7   | CNVSS    | Pin for processor mode setting (pull-down)                          | I   |        |
| 8   | NC       | NC pin                                                              |     |        |
| 9   | NC       | NC pin                                                              |     |        |
| 10  | RST_MD   | Reset input                                                         | I   | L      |
| 11  | XOUT     | Output for main clock                                               | O   | —      |
| 12  | VSS      | GND                                                                 | —   | —      |
| 13  | XIN      | Input for main clock                                                | I   | —      |
| 14  | VCC1     | Power supply = STB3.3V                                              | —   | —      |
| 15  | NMI      | (pull-up)                                                           | I   |        |
| 16  | REM_B    | (Interruption) Remote control signal input (in the panel unit)      | I   |        |
| 17  | KEY_B    | (Interruption) Key signal input (in the panel unit)                 | I   |        |
| 18  | RST2     | (Interruption) IC4 reset detection                                  | I   | L      |
| 19  | HD_IN_B  | HD signal existence distinction                                     | I   | L      |
| 20  | PD_MUTE  | Mute the power down output to the POWER SUPPLY Unit                 | O   | L      |
| 21  | PS_PD    | PD signal in the POWER SUPPLY Unit                                  | I   | H      |
| 22  | DCC_PD   | PD signal of DC-DC converter                                        | I   | H      |
| 23  | NC       | NC pin                                                              |     |        |
| 24  | NC       | NC pin                                                              |     |        |
| 25  | VD_IN    | V. frequency count                                                  | I   | L      |
| 26  | EEPRST   | EEPROM power SW                                                     | O   | H      |
| 27  | E_SCL    | IIC clock output for EEPROM                                         | O   |        |
| 28  | E_SDA    | IIC data I/O for EEPROM                                             | I/O |        |
| 29  | TXD      | Communication with flash ROM writer - data transmission             | O   |        |
| 30  | RXD      | Communication with flash ROM writer - data receive                  | I   |        |
| 31  | SCLK     | Communication with flash ROM writer - clock input                   | I   |        |
| 32  | BUSY     | Communication with flash ROM writer - busy output                   | O   |        |
| 33  | TXD0     | UART communication with main UCOM (external PC) - data transmission | O   |        |
| 34  | RXD0     | UART communication with main UCOM (external PC) - data receive      | I   |        |
| 35  | NC       | NC pin                                                              |     |        |
| 36  | REQ_MD   | Communication request to the main UCOM                              | O   | H      |
| 37  | PSW_D    | Mute of DC-DC converter                                             | O   | H      |
| 38  | WE_IC4   | In IC4 (MANTA) rewriting, control for communication path switch     | O   | H      |
| 39  | EPM      | Setting pin for flash rewriting mode (pull-down)                    | I   |        |
| 40  | IC4_RST  | IC4 forced reset                                                    | O   | L      |
| 41  | IC4_CE   | Enable for IC4 communication                                        | O   | L      |
| 42  | IC4_BUSY | Busy input for IC4 communication                                    | I   | H      |
| 43  | REQ_IC4  | Communication request from the IC4                                  | I   | H      |
| 44  | CE       | Setting pin for flash rewriting mode (pull-up)                      | I   |        |
| 45  | PSIZE    | Panel size distinction                                              | I   |        |
| 46  | B_SCL    | IIC clock output for backup EEPROM                                  | O   | H      |
| 47  | B_SDA    | IIC DATA I/O for backup EEPROM                                      | I/O | H      |
| 48  | ADR_PD   | PD signal of address junction                                       | I   | H      |
| 49  | LED_G    | Green LED control                                                   | O   | L      |
| 50  | LED_R    | Red LED control                                                     | O   | L      |

## ■ M30626FHPGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

### ● Pin Function (2/2)

| No. | Pin Name | Function                                             | I/O | ACTIVE |
|-----|----------|------------------------------------------------------|-----|--------|
| 51  | DRV_OFF  | Driving OFF                                          | O   | H      |
| 52  | RELAY    | Power ON control output                              | O   | H      |
| 53  | POWER    | Power ON control input                               | I   | H      |
| 54  | MR_ST_B  | MDR connection detection                             | I   | L      |
| 55  | OP_DET   | Rear case open detection                             | I   |        |
| 56  | NC       | NC pin                                               |     |        |
| 57  | PNL_MUTE | Panel mute                                           | I   |        |
| 58  | DITHER   | PC/VIDEO dither switch (panel module exclusive use)  | I   |        |
| 59  | NC       | NC pin                                               |     |        |
| 60  | VCC2     | Power supply = STB 3.3V                              | —   | —      |
| 61  | PD_TRG   | PD detection                                         | I   | L      |
| 62  | VSS      | GND                                                  | —   | —      |
| 63  | VH_PD    | Vh power decrease PD                                 | I   | H      |
| 64  | YDRV_PD  | Y drive PD signal                                    | I   | H      |
| 65  | YRES_PD  | Y drive PD signal                                    | I   | H      |
| 66  | YDCDC_PD | PD signal of Y drive DC-DC converter                 | I   | H      |
| 67  | IC5V_PD  | 5V power decrease PD                                 | I   | H      |
| 68  | XSUS_PD  | X drive PD signal                                    | I   | H      |
| 69  | XDCDC_PD | PD signal of X drive DC-DC converter                 | I   | H      |
| 70  | XDRV_PD  | X drive PD signal                                    | I   | H      |
| 71  | NC       | NC pin                                               |     |        |
| 72  | MR_AC    | MR power monitor                                     | I   | H      |
| 73  | AC_DET   | AC power monitor at panel side (same signal as CST1) | I   | L      |
| 74  | DVI_MUTE | Mute of panel link output                            | O   | H      |
| 75  | A_MUTE   | Audio mute                                           | O   | H      |
| 76  | A_NG     | Audio NG detection                                   | I   | L      |
| 77  | A_SCL    | IIC clock output for audio/others                    | O   | L      |
| 78  | A_SDA    | IIC data I/O for audio/others                        | I/O | L      |
| 79  | TRUBASS  | TRUBASS ON/OFF                                       | O   | H      |
| 80  | STB_SW   | Standby setting of audio amp.                        | O   | L      |
| 81  | FOCUS    | FOCUS ON/OFF                                         | O   | H      |
| 82  | SRS      | SRS ON/OFF                                           | O   | H      |
| 83  | DDC_WP   | DDCROM write protection                              | O   | H      |
| 84  | DVI_DET  | DVI cable disconnection detection                    | I   | H      |
| 85  | RSTBTMDS | Reset detection of panel link receiver               | I   | L      |
| 86  | L_SYNC   | DE omission detection of the panel link              | I   | L      |
| 87  | NC       | NC pin                                               |     |        |
| 88  | NC       | NC pin                                               |     |        |
| 89  | MASK1    | [A/D] Mask display setting                           | I   |        |
| 90  | MAX_PLS2 | [A/D] Brightness setting for panel module            | I   |        |
| 91  | MAX_PLS1 | [A/D] Brightness setting for panel module            | I   |        |
| 92  | TEMP     | [A/D] AD input for temperature sensor                | I   |        |
| 93  | MODE     | [A/D] Operation mode setting                         | I   |        |
| 94  | AVSS     | GND for A/D input                                    | —   | —      |
| 95  | MODEL    | [A/D] CMX/HD/TV/WX distinction                       | I   |        |
| 96  | VREF     | Reference voltage for A/D input                      | —   | —      |
| 97  | AVCC     | Power supply for A/D input = STB3.3V                 | —   | —      |
| 98  | NC       | NC pin                                               |     |        |
| 99  | NC       | NC pin                                               |     |        |
| 100 | AMG_MD   | Address emergency monitor                            | I   | H      |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (1/10)

| Ball No. | No. | Pin Name     | Function                                     |
|----------|-----|--------------|----------------------------------------------|
| A1       | 1   | BAI_6        | A phase signal input of B video (sixth bit)  |
| B1       | 2   | BAI_5        | A phase signal input of B video (fifth bit)  |
| C1       | 3   | BAI_4        | A phase signal input of B video (fourth bit) |
| D1       | 4   | NC           | NC pin                                       |
| E1       | 5   | NC           | NC pin                                       |
| F1       | 6   | BAI_3        | A phase signal input of B video (fifth bit)  |
| G1       | 7   | BAI_2        | A phase signal input of B video (fourth bit) |
| H1       | 8   | FIELD        | FIELD signal input                           |
| J1       | 9   | XSUSB_12     | X-Drive control signal output                |
| K1       | 10  | XSUSB_10     | X-Drive control signal output                |
| L1       | 11  | XSUSB_4      | X-Drive control signal output                |
| M1       | 12  | XSUSB_0      | X-Drive control signal output                |
| N1       | 13  | XSUSA_10     | X-Drive control signal output                |
| P1       | 14  | XSUSA_4      | X-Drive control signal output                |
| R1       | 15  | XSUSA_2      | X-Drive control signal output                |
| T1       | 16  | ADRS_0       | Address control signal output                |
| U1       | 17  | AD6TXOUT3M   | Address LVDS signal output                   |
| V1       | 18  | AD6TXCLKOUTM | Address LVDS signal output                   |
| W1       | 19  | AD6TXOUT2M   | Address LVDS signal output                   |
| Y1       | 20  | AD6TXOUT1M   | Address LVDS signal output                   |
| AA1      | 21  | AD6TXOUT0M   | Address LVDS signal output                   |
| AB1      | 22  | AD7TXOUT3M   | Address LVDS signal output                   |
| AC1      | 23  | AD7TXCLKOUTM | Address LVDS signal output                   |
| AD1      | 24  | AD7TXOUT2M   | Address LVDS signal output                   |
| AE1      | 25  | AD7TXOUT1M   | Address LVDS signal output                   |
| AF1      | 26  | AD7TXOUT0M   | Address LVDS signal output                   |
| AF2      | 27  | AD7TXOUT0P   | Address LVDS signal output                   |
| AF3      | 28  | VSSLA        | GND                                          |
| AF4      | 29  | AD3TXOUT3M   | Address LVDS signal output                   |
| AF5      | 30  | AD3TXCLKOUTM | Address LVDS signal output                   |
| AF6      | 31  | AD3TXOUT2M   | Address LVDS signal output                   |
| AF7      | 32  | AD3TXOUT1M   | Address LVDS signal output                   |
| AF8      | 33  | AD3TXOUT0M   | Address LVDS signal output                   |
| AF9      | 34  | AD2TXOUT3M   | Address LVDS signal output                   |
| AF10     | 35  | AD2TXCLKOUTM | Address LVDS signal output                   |
| AF11     | 36  | AD2TXOUT2M   | Address LVDS signal output                   |
| AF12     | 37  | AD2TXOUT1M   | Address LVDS signal output                   |
| AF13     | 38  | AD2TXOUT0M   | Address LVDS signal output                   |
| AF14     | 39  | AD1TXOUT3M   | Address LVDS signal output                   |
| AF15     | 40  | AD1TXCLKOUTM | Address LVDS signal output                   |
| AF16     | 41  | AD1TXOUT2M   | Address LVDS signal output                   |
| AF17     | 42  | AD1TXOUT1M   | Address LVDS signal output                   |
| AF18     | 43  | AD1TXOUT0M   | Address LVDS signal output                   |
| AF19     | 44  | AD0TXOUT3M   | Address LVDS signal output                   |
| AF20     | 45  | AD0TXCLKOUTM | Address LVDS signal output                   |
| AF21     | 46  | AD0TXOUT2M   | Address LVDS signal output                   |
| AF22     | 47  | AD0TXOUT1M   | Address LVDS signal output                   |
| AF23     | 48  | AD0TXOUT0M   | Address LVDS signal output                   |
| AF24     | 49  | VSSL15       | GND                                          |
| AF25     | 50  | AD4TXOUT3P   | Address LVDS signal output                   |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (2/10)

| Ball No. | No. | Pin Name     | Function                                     |
|----------|-----|--------------|----------------------------------------------|
| AF26     | 51  | AD4TXOUT3M   | Address LVDS signal output                   |
| AE26     | 52  | AD4TXCLKOUTM | Address LVDS signal output                   |
| AD26     | 53  | AD4TXOUT2M   | Address LVDS signal output                   |
| AC26     | 54  | AD4TXOUT1M   | Address LVDS signal output                   |
| AB26     | 55  | AD4TXOUT0M   | Address LVDS signal output                   |
| AA26     | 56  | AD5TXOUT3M   | Address LVDS signal output                   |
| Y26      | 57  | AD5TXCLKOUTM | Address LVDS signal output                   |
| W26      | 58  | AD5TXOUT2M   | Address LVDS signal output                   |
| V26      | 59  | AD5TXOUT1M   | Address LVDS signal output                   |
| U26      | 60  | AD5TXOUT0M   | Address LVDS signal output                   |
| T26      | 61  | SDIDBI_N     | JTAG signal                                  |
| R26      | 62  | SDIJTAG      | JTAG signal                                  |
| P26      | 63  | GPIO0_3      | Microcomputer macro general-purpose port     |
| N26      | 64  | GPIO0_1      | Microcomputer macro general-purpose port     |
| M26      | 65  | YSUSA_4      | Y-Drive control signal output                |
| L26      | 66  | YSUSA_10     | Y-Drive control signal output                |
| K26      | 67  | YSUSA_14     | Y-Drive control signal output                |
| J26      | 68  | YSUSB_4      | Y-Drive control signal output                |
| H26      | 69  | YSUSB_6      | Y-Drive control signal output                |
| G26      | 70  | YSUSB_10     | Y-Drive control signal output                |
| F26      | 71  | YSUSB_14     | Y-Drive control signal output                |
| E26      | 72  | NC           | NC pin                                       |
| D26      | 73  | NC           | NC pin                                       |
| C26      | 74  | SCAN_10      | Scan control signal output                   |
| B26      | 75  | CSIoTXD      | Communication with microcomputer             |
| A26      | 76  | CSRD_N       | Communication with microcomputer             |
| A25      | 77  | CSCS_N0      | Communication with microcomputer             |
| A24      | 78  | EXA16        | Flash memory address bus                     |
| A23      | 79  | EXA15        | Flash memory address bus                     |
| A22      | 80  | EXA14        | Flash memory address bus                     |
| A21      | 81  | EXA13        | Flash memory address bus                     |
| A20      | 82  | EXA12        | Flash memory address bus                     |
| A19      | 83  | EXA10        | Flash memory address bus                     |
| A18      | 84  | EXA7         | Flash memory address bus                     |
| A17      | 85  | EXA1         | Flash memory address bus                     |
| A16      | 86  | EXDIO_3      | Flash memory data bus                        |
| A15      | 87  | EXDIO_5      | Flash memory data bus                        |
| A14      | 88  | EXDIO_11     | Flash memory data bus                        |
| A13      | 89  | TRNSEND_O    | NC pin                                       |
| A12      | 90  | RBI_5        | B phase signal input of R video (fifth bit)  |
| A11      | 91  | RBI_0        | B phase signal input of R video (0 bit)      |
| A10      | 92  | GBI_8        | B phase signal input of G video (eighth bit) |
| A9       | 93  | GBI_2        | B phase signal input of G video (second bit) |
| A8       | 94  | BBI_6        | B phase signal input of B video (sixth bit)  |
| A7       | 95  | BBI_0        | B phase signal input of B video (0 bit)      |
| A6       | 96  | VDI          | VD signal input                              |
| A5       | 97  | RAI_5        | A phase signal input of R video (fifth bit)  |
| A4       | 98  | DCLKI        | CLK input                                    |
| A3       | 99  | GAI_4        | A phase signal input of G video (fourth bit) |
| A2       | 100 | BAI_9        | A phase signal input of B video (ninth bit)  |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (3/10)

| Ball No. | No. | Pin Name     | Function                                      |
|----------|-----|--------------|-----------------------------------------------|
| B2       | 101 | BAI_8        | A phase signal input of B video (eighth bit)  |
| C2       | 102 | BAI_7        | A phase signal input of B video (seventh bit) |
| D2       | 103 | GND          | GND                                           |
| E2       | 104 | NC           | NC                                            |
| F2       | 105 | NC           | NC                                            |
| G2       | 106 | BAI_1        | A phase signal input of B video (first bit)   |
| H2       | 107 | XSUSB_15     | X-Drive control signal output                 |
| J2       | 108 | GND          | GND                                           |
| K2       | 109 | XSUSB_9      | X-Drive control signal output                 |
| L2       | 110 | XSUSB_3      | X-Drive control signal output                 |
| M2       | 111 | XSUSA_15     | X-Drive control signal output                 |
| N2       | 112 | XSUSA_9      | X-Drive control signal output                 |
| P2       | 113 | GND          | GND                                           |
| R2       | 114 | XSUSA_1      | X-Drive control signal output                 |
| T2       | 115 | TEST2        | Test signal input (Not used)                  |
| U2       | 116 | AD6TXOUT3P   | Address LVDS signal output                    |
| V2       | 117 | AD6TXCLKOUTP | Address LVDS signal output                    |
| W2       | 118 | AD6TXOUT2P   | Address LVDS signal output                    |
| Y2       | 119 | AD6TXOUT1P   | Address LVDS signal output                    |
| AA2      | 120 | AD6TXOUT0P   | Address LVDS signal output                    |
| AB2      | 121 | AD7TXOUT3P   | Address LVDS signal output                    |
| AC2      | 122 | AD7TXCLKOUTP | Address LVDS signal output                    |
| AD2      | 123 | AD7TXOUT2P   | Address LVDS signal output                    |
| AE2      | 124 | AD7TXOUT1P   | Address LVDS signal output                    |
| AE3      | 125 | VSSLA        | GND                                           |
| AE4      | 126 | AD3TXOUT3P   | Address LVDS signal output                    |
| AE5      | 127 | AD3TXCLKOUTP | Address LVDS signal output                    |
| AE6      | 128 | AD3TXOUT2P   | Address LVDS signal output                    |
| AE7      | 129 | AD3TXOUT1P   | Address LVDS signal output                    |
| AE8      | 130 | AD3TXOUT0P   | Address LVDS signal output                    |
| AE9      | 131 | AD2TXOUT3P   | Address LVDS signal output                    |
| AE10     | 132 | AD2TXCLKOUTP | Address LVDS signal output                    |
| AE11     | 133 | AD2TXOUT2P   | Address LVDS signal output                    |
| AE12     | 134 | AD2TXOUT1P   | Address LVDS signal output                    |
| AE13     | 135 | AD2TXOUT0P   | Address LVDS signal output                    |
| AE14     | 136 | AD1TXOUT3P   | Address LVDS signal output                    |
| AE15     | 137 | AD1TXCLKOUTP | Address LVDS signal output                    |
| AE16     | 138 | AD1TXOUT2P   | Address LVDS signal output                    |
| AE17     | 139 | AD1TXOUT1P   | Address LVDS signal output                    |
| AE18     | 140 | AD1TXOUT0P   | Address LVDS signal output                    |
| AE19     | 141 | AD0TXOUT3P   | Address LVDS signal output                    |
| AE20     | 142 | AD0TXCLKOUTP | Address LVDS signal output                    |
| AE21     | 143 | AD0TXOUT2P   | Address LVDS signal output                    |
| AE22     | 144 | AD0TXOUT1P   | Address LVDS signal output                    |
| AE23     | 145 | AD0TXOUT0P   | Address LVDS signal output                    |
| AE24     | 146 | VSSL15       | GND                                           |
| AE25     | 147 | AD4TXCLKOUTP | Address LVDS signal output                    |
| AD25     | 148 | AD4TXOUT2P   | Address LVDS signal output                    |
| AC25     | 149 | AD4TXOUT1P   | Address LVDS signal output                    |
| AB25     | 150 | AD4TXOUT0P   | Address LVDS signal output                    |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

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### ● Pin Function (4/10)

| Ball No. | No. | Pin Name     | Function                                      |
|----------|-----|--------------|-----------------------------------------------|
| AA25     | 151 | AD5TXOUT3P   | Address LVDS signal output                    |
| Y25      | 152 | AD5TXCLKOUTP | Address LVDS signal output                    |
| W25      | 153 | AD5TXOUT2P   | Address LVDS signal output                    |
| V25      | 154 | AD5TXOUT1P   | Address LVDS signal output                    |
| U25      | 155 | AD5TXOUT0P   | Address LVDS signal output                    |
| T25      | 156 | SDITRST_N    | JTAG signal                                   |
| R25      | 157 | RESETX       | Reset input                                   |
| P25      | 158 | GND          | GND                                           |
| N25      | 159 | GPIO0_0      | Microcomputer macro general-purpose port      |
| M25      | 160 | YSUSA_5      | Y-Drive control signal output                 |
| L25      | 161 | YSUSA_11     | Y-Drive control signal output                 |
| K25      | 162 | YSUSA_15     | Y-Drive control signal output                 |
| J25      | 163 | GND          | GND                                           |
| H25      | 164 | YSUSB_7      | Y-Drive control signal output                 |
| G25      | 165 | YSUSB_11     | Y-Drive control signal output                 |
| F25      | 166 | NC           | NC pin                                        |
| E25      | 167 | NC           | NC pin                                        |
| D25      | 168 | GND          | GND                                           |
| C25      | 169 | SCAN_11      | Scan control signal output                    |
| B25      | 170 | CSIORXD      | Communication with UCOM                       |
| B24      | 171 | CSIOSCKI     | Communication with UCOM                       |
| B23      | 172 | UARTTXD      | Communication with UCOM                       |
| B22      | 173 | UARTRXD      | Communication with UCOM                       |
| B21      | 174 | CSWR_N0      | Communication with UCOM                       |
| B20      | 175 | GND          | GND                                           |
| B19      | 176 | EXA9         | Flash memory address bus                      |
| B18      | 177 | EXA6         | Flash memory address bus                      |
| B17      | 178 | EXA0         | Flash memory address bus                      |
| B16      | 179 | GND          | GND                                           |
| B15      | 180 | EXDIO_6      | Flash memory data bus                         |
| B14      | 181 | EXDIO_12     | Flash memory data bus                         |
| B13      | 182 | RBI_9        | B phase signal input of R video (ninth bit)   |
| B12      | 183 | RBI_4        | B phase signal input of R video (fourth bit)  |
| B11      | 184 | GND          | GND                                           |
| B10      | 185 | GBI_7        | B phase signal input of G video (seventh bit) |
| B9       | 186 | GBI_1        | B phase signal input of G video (first bit)   |
| B8       | 187 | BBI_5        | B phase signal input of B video (fifth bit)   |
| B7       | 188 | GND          | GND                                           |
| B6       | 189 | HDI          | HD signal input                               |
| B5       | 190 | RAI_4        | A phase signal input of R video (fourth bit)  |
| B4       | 191 | GAI_9        | A phase signal input of G video (ninth bit)   |
| B3       | 192 | GAI_3        | A phase signal input of G video (third bit)   |
| C3       | 193 | GAI_2        | A phase signal input of G video (second bit)  |
| D3       | 194 | VDDD33       | 3.3V power supply                             |
| E3       | 195 | GAI_1        | A phase signal input of G video (first bit)   |
| F3       | 196 | GAI_0        | A phase signal input of G video (0 bit)       |
| G3       | 197 | NC           | NC pin                                        |
| H3       | 198 | XSUSB_14     | X-Drive control signal output                 |
| J3       | 199 | VDDIO        | 3.3V power supply                             |
| K3       | 200 | XSUSB_8      | X-Drive control signal output                 |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (5/10)

| Ball No. | No. | Pin Name | Function                                 |
|----------|-----|----------|------------------------------------------|
| L3       | 201 | XSUSB_2  | X-Drive control signal output            |
| M3       | 202 | XSUSA_14 | X-Drive control signal output            |
| N3       | 203 | XSUSA_8  | X-Drive control signal output            |
| P3       | 204 | VDDIO    | 3.3V power supply                        |
| R3       | 205 | XSUSA_0  | X-Drive control signal output            |
| T3       | 206 | TEST1    | Test signal input (Not used)             |
| U3       | 207 | VSSLA    | GND                                      |
| V3       | 208 | VSSLA    | GND                                      |
| W3       | 209 | VSSLA    | GND                                      |
| Y3       | 210 | VSSLA    | GND                                      |
| AA3      | 211 | VSSLA    | GND                                      |
| AB3      | 212 | VSSLA    | GND                                      |
| AC3      | 213 | VSSLA    | GND                                      |
| AD3      | 214 | VSSLA    | GND                                      |
| AD4      | 215 | VSSLA    | GND                                      |
| AD5      | 216 | VSSLA    | GND                                      |
| AD6      | 217 | VSSLA    | GND                                      |
| AD7      | 218 | VSSLA    | GND                                      |
| AD8      | 219 | VSSLA    | GND                                      |
| AD9      | 220 | VSSLA    | GND                                      |
| AD10     | 221 | VSSLA    | GND                                      |
| AD11     | 222 | VSSLA    | GND                                      |
| AD12     | 223 | VSSLA    | GND                                      |
| AD13     | 224 | VSSLA    | GND                                      |
| AD14     | 225 | VSSLA    | GND                                      |
| AD15     | 226 | VSSLA    | GND                                      |
| AD16     | 227 | VSSLA    | GND                                      |
| AD17     | 228 | VSSLA    | GND                                      |
| AD18     | 229 | VSSLA    | GND                                      |
| AD19     | 230 | VSSLA    | GND                                      |
| AD20     | 231 | VSSLA    | GND                                      |
| AD21     | 232 | VSSLA    | GND                                      |
| AD22     | 233 | VSSLA    | GND                                      |
| AD23     | 234 | VSSLA    | GND                                      |
| AD24     | 235 | VSSLA    | GND                                      |
| AC24     | 236 | VSSLA    | GND                                      |
| AB24     | 237 | VSSLA    | GND                                      |
| AA24     | 238 | VSSLA    | GND                                      |
| Y24      | 239 | VSSLA    | GND                                      |
| W24      | 240 | VSSLA    | GND                                      |
| V24      | 241 | VSSLA    | GND                                      |
| U24      | 242 | VSSLA    | GND                                      |
| T24      | 243 | SDITDO   | JTAG signal                              |
| R24      | 244 | GPIO0_7  | Microcomputer macro general-purpose port |
| P24      | 245 | VDDIO    | 3.3V power supply                        |
| N24      | 246 | YSUSA_0  | Y-Drive control signal output            |
| M24      | 247 | YSUSA_6  | Y-Drive control signal output            |
| L24      | 248 | YSUSA_12 | Y-Drive control signal output            |
| K24      | 249 | YSUSB_0  | Y-Drive control signal output            |
| J24      | 250 | VDDD33   | 3.3V power supply                        |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

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### ● Pin Function (6/10)

| Ball No. | No. | Pin Name | Function                                      |
|----------|-----|----------|-----------------------------------------------|
| H24      | 251 | YSUSB_8  | Y-Drive control signal output                 |
| G24      | 252 | NC       | NC pin                                        |
| F24      | 253 | YSUSB_15 | Y-Drive control signal output                 |
| E24      | 254 | SCAN_3   | Scan control signal output                    |
| D24      | 255 | VDDD33   | 3.3V power supply                             |
| C24      | 256 | SCAN_12  | Scan control signal output                    |
| C23      | 257 | SCAN_13  | Scan control signal output                    |
| C22      | 258 | SCAN_14  | Scan control signal output                    |
| C21      | 259 | SCAN_15  | Scan control signal output                    |
| C20      | 260 | VDDIO    | 3.3V power supply                             |
| C19      | 261 | EXA8     | Flash memory address bus                      |
| C18      | 262 | EXA5     | Flash memory address bus                      |
| C17      | 263 | CLKD     | CLK input (60MHz)                             |
| C16      | 264 | VDDIO    | 3.3V power supply                             |
| C15      | 265 | EXDIO_7  | Flash memory data bus                         |
| C14      | 266 | EXDIO_13 | Flash memory data bus                         |
| C13      | 267 | RBI_8    | B phase signal input of R video (eighth bit)  |
| C12      | 268 | RBI_3    | B phase signal input of R video (third bit)   |
| C11      | 269 | VDDIO    | 3.3V power supply                             |
| C10      | 270 | GBI_6    | B phase signal input of G video (sixth bit)   |
| C9       | 271 | GBI_0    | B phase signal input of G video (0 bit)       |
| C8       | 272 | BBI_4    | B phase signal input of B video (fourth bit)  |
| C7       | 273 | VDDIO    | 3.3V power supply                             |
| C6       | 274 | RAI_9    | A phase signal input of R video (ninth bit)   |
| C5       | 275 | RAI_3    | A phase signal input of R video (third bit)   |
| C4       | 276 | GAI_8    | A phase signal input of G video (eighth bit)  |
| D4       | 277 | GAI_7    | A phase signal input of G video (seventh bit) |
| E4       | 278 | GAI_6    | A phase signal input of G video (sixth bit)   |
| F4       | 279 | GAI_5    | A phase signal input of G video (fifth bit)   |
| G4       | 280 | VCMP     | GND                                           |
| H4       | 281 | XSUSB_13 | X-Drive control signal output                 |
| J4       | 282 | XSUSB_11 | X-Drive control signal output                 |
| K4       | 283 | XSUSB_7  | X-Drive control signal output                 |
| L4       | 284 | XSUSB_1  | X-Drive control signal output                 |
| M4       | 285 | XSUSA_13 | X-Drive control signal output                 |
| N4       | 286 | XSUSA_7  | X-Drive control signal output                 |
| P4       | 287 | XSUSA_3  | X-Drive control signal output                 |
| R4       | 288 | ADRS_3   | Address control signal output                 |
| T4       | 289 | TESTAN   | Test signal input (Not used)                  |
| U4       | 290 | VDDLA    | 3.3V power supply                             |
| V4       | 291 | VDDLA    | 3.3V power supply                             |
| W4       | 292 | VDDLA    | 3.3V power supply                             |
| Y4       | 293 | VDDLA    | 3.3V power supply                             |
| AA4      | 294 | VDDLA    | 3.3V power supply                             |
| AB4      | 295 | VDDLA    | 3.3V power supply                             |
| AC4      | 296 | VDDLA    | 3.3V power supply                             |
| AC5      | 297 | VDDLA    | 3.3V power supply                             |
| AC6      | 298 | VDDLA    | 3.3V power supply                             |
| AC7      | 299 | VDDLA    | 3.3V power supply                             |
| AC8      | 300 | VDDLA    | 3.3V power supply                             |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

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### ● Pin Function (7/10)

| Ball No. | No. | Pin Name | Function                                      |
|----------|-----|----------|-----------------------------------------------|
| AC8      | 300 | VDDLA    | 3.3V power supply                             |
| AC9      | 301 | VDDLA    | 3.3V power supply                             |
| AC10     | 302 | VDDLA    | 3.3V power supply                             |
| AC11     | 303 | VDDLA    | 3.3V power supply                             |
| AC12     | 304 | VDDLA    | 3.3V power supply                             |
| AC13     | 305 | VDDLA    | 3.3V power supply                             |
| AC14     | 306 | VDDBG    | 3.3V power supply                             |
| AC15     | 307 | VDDLA    | 3.3V power supply                             |
| AC16     | 308 | VDDLA    | 3.3V power supply                             |
| AC17     | 309 | VDDLA    | 3.3V power supply                             |
| AC18     | 310 | VDDLA    | 3.3V power supply                             |
| AC19     | 311 | VDDLA    | 3.3V power supply                             |
| AC20     | 312 | VDDLA    | 3.3V power supply                             |
| AC21     | 313 | VDDLA    | 3.3V power supply                             |
| AC22     | 314 | VDDLA    | 3.3V power supply                             |
| AC23     | 315 | VDDLA    | 3.3V power supply                             |
| AB23     | 316 | VDDLA    | 3.3V power supplyv                            |
| AA23     | 317 | VDDLA    | 3.3V power supply                             |
| Y23      | 318 | VDDLA    | 3.3V power supply                             |
| W23      | 319 | VDDLA    | 3.3V power supply                             |
| V23      | 320 | VDDLA    | 3.3V power supply                             |
| U23      | 321 | VDDLA    | 3.3V power supply                             |
| T23      | 322 | SDITDI   | JTAG signal                                   |
| R23      | 323 | GPIO0_6  | Microcomputer macro general-purpose port      |
| P23      | 324 | GPIO0_2  | Microcomputer macro general-purpose port      |
| N23      | 325 | YSUSA_1  | Y-Drive control signal output                 |
| M23      | 326 | YSUSA_7  | Y-Drive control signal output                 |
| L23      | 327 | YSUSA_13 | Y-Drive control signal output                 |
| K23      | 328 | YSUSB_1  | Y-Drive control signal output                 |
| J23      | 329 | YSUSB_5  | Y-Drive control signal output                 |
| H23      | 330 | YSUSB_9  | Y-Drive control signal output                 |
| G23      | 331 | VCMP     | GND                                           |
| F23      | 332 | SCAN_0   | Scan control signal output                    |
| E23      | 333 | SCAN_4   | Scan control signal output                    |
| D23      | 334 | SCAN_7   | Scan control signal output                    |
| D22      | 335 | SCAN_8   | Scan control signal output                    |
| D21      | 336 | SCAN_9   | Scan control signal output                    |
| D20      | 337 | EXA11    | Flash memory address bus                      |
| D19      | 338 | EXA19    | Flash memory address bus                      |
| D18      | 339 | EXA4     | Flash memory address bus                      |
| D17      | 340 | EXDIO_0  | Flash memory data bus                         |
| D16      | 341 | EXDIO_4  | Flash memory data bus                         |
| D15      | 342 | EXDIO_8  | Flash memory data bus                         |
| D14      | 343 | EXDIO_14 | Flash memory data bus                         |
| D13      | 344 | RBI_7    | B phase signal input of R video (seventh bit) |
| D12      | 345 | RBI_2    | B phase signal input of R video (second bit)  |
| D11      | 346 | GBI_9    | B phase signal input of G video (ninth bit)   |
| D10      | 347 | GBI_5    | B phase signal input of G video (fifth bit)   |
| D9       | 348 | BBI_9    | B phase signal input of B video (ninth bit)   |
| D8       | 349 | BBI_3    | B phase signal input of B video (tenth bit)   |

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### ● Pin Function (8/10)

| Ball No. | No. | Pin Name | Function                                     |
|----------|-----|----------|----------------------------------------------|
| D7       | 350 | DEI      | DE signal input                              |
| D6       | 351 | RAI_8    | A phase signal input of R video (eighth bit) |
| D5       | 352 | RAI_2    | A phase signal input of R video (second bit) |
| E5       | 353 | RAI_1    | A phase signal input of R video (first bit)  |
| F5       | 354 | RAI_0    | A phase signal input of R video (0 bit)      |
| G5       | 355 | BAI_0    | A phase signal input of B video (0 bit)      |
| H5       | 356 | VSS15    | GND                                          |
| J5       | 357 | VDDHR    | 3.3V power supply                            |
| K5       | 358 | XSUSB_6  | X-Drive control signal output                |
| L5       | 359 | VSSD15   | GND                                          |
| M5       | 360 | XSUSA_12 | X-Drive control signal output                |
| N5       | 361 | XSUSA_6  | X-Drive control signal output                |
| P5       | 362 | VSS15    | GND                                          |
| R5       | 363 | ADRS_2   | Address control signal output                |
| T5       | 364 | TESTBN   | Test signal input (Not used)                 |
| U5       | 365 | VSSL15   | GND                                          |
| V5       | 366 | VSSLA    | GND                                          |
| W5       | 367 | VSSLA    | GND                                          |
| Y5       | 368 | VSSL15   | GND                                          |
| AA5      | 369 | VDDL15   | 3.3V power supply                            |
| AB5      | 370 | VSSL15   | GND                                          |
| AB6      | 371 | VSSLA    | GND                                          |
| AB7      | 372 | VSSLA    | GND                                          |
| AB8      | 373 | VSSL15   | GND                                          |
| AB9      | 374 | VSSLA    | GND                                          |
| AB10     | 375 | VSSLA    | GND                                          |
| AB11     | 376 | VSSL15   | GND                                          |
| AB12     | 377 | VSSLA    | GND                                          |
| AB13     | 378 | VSSLA    | GND                                          |
| AB14     | 379 | REFRIN   | Reference current generation                 |
| AB15     | 380 | VSSBG    | GND                                          |
| AB16     | 381 | VSSL15   | GND                                          |
| AB17     | 382 | VSSLA    | GND                                          |
| AB18     | 383 | VSSLA    | GND                                          |
| AB19     | 384 | VSSL15   | GND                                          |
| AB20     | 385 | VSSLA    | GND                                          |
| AB21     | 386 | VSSLA    | GND                                          |
| AB22     | 387 | VSSLA    | GND                                          |
| AA22     | 388 | VDDL15   | 3.3V power supply                            |
| Y22      | 389 | VSSL15   | GND                                          |
| W22      | 390 | VSSLA    | GND                                          |
| V22      | 391 | VSSLA    | GND                                          |
| U22      | 392 | VSSL15   | GND                                          |
| T22      | 393 | SDITMS   | JTAG signal                                  |
| R22      | 394 | GPIO0_5  | Microcomputer macro general-purpose port     |
| P22      | 395 | VSS15    | GND                                          |
| N22      | 396 | YSUSA_2  | Y-Drive control signal output                |
| M22      | 397 | YSUSA_8  | Y-Drive control signal output                |
| L22      | 398 | VSSD15   | GND                                          |
| K22      | 399 | YSUSB_2  | Y-Drive control signal output                |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

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### ● Pin Function (9/10)

| Ball No. | No. | Pin Name | Function                                      |
|----------|-----|----------|-----------------------------------------------|
| J22      | 400 | VDDHL    | 3.3V power supply                             |
| H22      | 401 | VSSD15   | GND                                           |
| G22      | 402 | YSUSB_12 | Y-Drive control signal output                 |
| F22      | 403 | SCAN_1   | Scan control signal output                    |
| E22      | 404 | SCAN_5   | Scan control signal output                    |
| E21      | 405 | SCAN_6   | Scan control signal output                    |
| E20      | 406 | VSS15    | GND                                           |
| E19      | 407 | EXA18    | Flash memory address bus                      |
| E18      | 408 | EXA3     | Flash memory address bus                      |
| E17      | 409 | EXDIO_1  | Flash memory data bus                         |
| E16      | 410 | VSS15    | GND                                           |
| E15      | 411 | EXDIO_9  | Flash memory data bus                         |
| E14      | 412 | EXDIO_15 | Flash memory data bus                         |
| E13      | 413 | RBI_6    | B phase signal input of R video (sixth bit)   |
| E12      | 414 | CLKS     | CLK input (85MHz)                             |
| E11      | 415 | VSS15    | GND                                           |
| E10      | 416 | GBI_4    | B phase signal input of G video (fourth bit)  |
| E8       | 418 | BBI_2    | B phase signal input of B video (second bit)  |
| E9       | 417 | BBI_8    | B phase signal input of B video (eighth bit)  |
| E7       | 419 | VSS15    | GND                                           |
| E6       | 420 | RAI_7    | A phase signal input of R video (seventh bit) |
| F6       | 421 | RAI_6    | A phase signal input of R video (sixth bit)   |
| G6       | 422 | APL_DT   | APL value trigger input                       |
| H6       | 423 | VDD15    | 1.5V power supply                             |
| J6       | 424 | VBB      | VBB power monitor in the DRAM                 |
| K6       | 425 | XSUSB_5  | X-Drive control signal output                 |
| L6       | 426 | VDDD15   | 1.5V power supply                             |
| M6       | 427 | XSUSA_11 | X-Drive control signal output                 |
| N6       | 428 | XSUSA_5  | X-Drive control signal output                 |
| P6       | 429 | VDD15    | 1.5V power supply                             |
| R6       | 430 | ADRS_1   | Address control signal output                 |
| T6       | 431 | TESTCN   | Test signal input (Not used)                  |
| U6       | 432 | VDDL15   | 1.5V power supply                             |
| V6       | 433 | VDDLA    | 3.3V power supply                             |
| W6       | 434 | VDDLA    | 3.3V power supply                             |
| Y6       | 435 | VDDL15   | 1.5V power supply                             |
| AA6      | 436 | VDDLA    | 3.3V power supply                             |
| AA7      | 437 | VDDLA    | 3.3V power supply                             |
| AA8      | 438 | VDDL15   | 1.5V power supply                             |
| AA9      | 439 | VDDLA    | 3.3V power supply                             |
| AA10     | 440 | VDDLA    | 3.3V power supply                             |
| AA11     | 441 | VDDL15   | 1.5V power supply                             |
| AA12     | 442 | VDDLA    | 3.3V power supply                             |
| AA13     | 443 | VDDLA    | 3.3V power supply                             |
| AA14     | 444 | VDDLA    | 3.3V power supply                             |
| AA15     | 445 | VDDLA    | 3.3V power supply                             |
| AA16     | 446 | VDDL15   | 1.5V power supply                             |
| AA17     | 447 | VDDLA    | 3.3V power supply                             |
| AA18     | 448 | VDDLA    | 3.3V power supply                             |
| AA19     | 449 | VDDL15   | 1.5V power supply                             |

## ■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

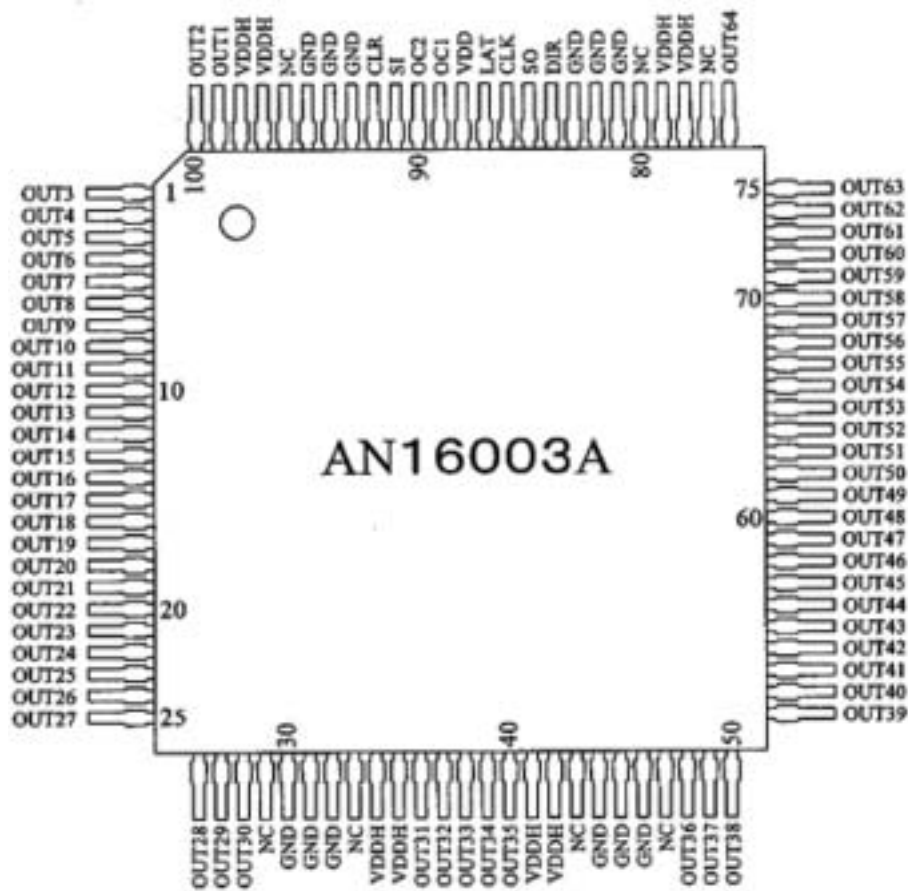
### ● Pin Function (10/10)

| Ball No. | No. | Pin Name  | Function                                      |
|----------|-----|-----------|-----------------------------------------------|
| AA20     | 450 | VDDLA     | 3.3V power supply                             |
| AA21     | 451 | VDDLA     | 3.3V power supply                             |
| Y21      | 452 | VDDL15    | 1.5V power supply                             |
| W21      | 453 | VDDLA     | 3.3V power supply                             |
| V21      | 454 | VDDLA     | 3.3V power supply                             |
| U21      | 455 | VDDL15    | 1.5V power supply                             |
| T21      | 456 | SDITCK    | JTAG signal                                   |
| R21      | 457 | GPIO0_4   | Microcomputer macro general-purpose port      |
| P21      | 458 | VDD15     | 1.5V power supply                             |
| N21      | 459 | YSUSA_3   | Y-Drive control signal output                 |
| M21      | 460 | YSUSA_9   | Y-Drive control signal output                 |
| L21      | 461 | VDDD15    | 1.5V power supply                             |
| K21      | 462 | YSUSB_3   | Y-Drive control signal output                 |
| J21      | 463 | VBB       | VBB power monitor in the DRAM                 |
| H21      | 464 | VDDD15    | 1.5V power supply                             |
| G21      | 465 | YSUSB_13  | Y-Drive control signal output                 |
| F21      | 466 | SCAN_2    | Scan control signal output                    |
| F20      | 467 | VDD15     | 1.5V power supply                             |
| F19      | 468 | EXA17     | Flash memory address bus                      |
| F18      | 469 | EXA2      | Flash memory address bus                      |
| F17      | 470 | EXDIO_2   | Flash memory data bus                         |
| F16      | 471 | VDD15     | 1.5V power supply                             |
| F15      | 472 | EXDIO_10  | Flash memory data bus                         |
| F14      | 473 | TRNSEND_I | NC pin                                        |
| F13      | 474 | VDD15     | 1.5V power supply                             |
| F12      | 475 | RBI_1     | B phase signal input of R video (first bit)   |
| F11      | 476 | VDD15     | 1.5V power supply                             |
| F10      | 477 | GBI_3     | B phase signal input of G video (third bit)   |
| F9       | 478 | BBI_7     | B phase signal input of B video (seventh bit) |
| F8       | 479 | BBI_1     | B phase signal input of B video (first bit)   |
| F7       | 480 | VDD15     | 1.5V power supply                             |

■ **AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006)**  
**(50 SCAN B ASSY : IC3201 - IC3206)**

Plasma Display Panel IC

● **Pin Arrangement (Top view)**



**AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006)**  
**(50 SCAN B ASSY : IC3201 - IC3206)**

**Plasma Display Panel IC**

● Pin Function (1/3)

| Pin No. | Pin Name         | Type   | Discription                       |
|---------|------------------|--------|-----------------------------------|
| 1       | OUT3             | Output | High-voltage push-pull output pin |
| 2       | OUT4             |        |                                   |
| 3       | OUT5             |        |                                   |
| 4       | OUT6             |        |                                   |
| 5       | OUT7             |        |                                   |
| 6       | OUT8             |        |                                   |
| 7       | OUT9             |        |                                   |
| 8       | OUT10            |        |                                   |
| 9       | OUT11            |        |                                   |
| 10      | OUT12            |        |                                   |
| 11      | OUT13            |        |                                   |
| 12      | OUT14            |        |                                   |
| 13      | OUT15            |        |                                   |
| 14      | OUT16            |        |                                   |
| 15      | OUT17            |        |                                   |
| 16      | OUT18            |        |                                   |
| 17      | OUT19            |        |                                   |
| 18      | OUT20            |        |                                   |
| 19      | OUT21            |        |                                   |
| 20      | OUT22            |        |                                   |
| 21      | OUT23            |        |                                   |
| 22      | OUT24            |        |                                   |
| 23      | OUT25            |        |                                   |
| 24      | OUT26            |        |                                   |
| 25      | OUT27            |        |                                   |
| 26      | OUT28            |        |                                   |
| 27      | OUT29            |        |                                   |
| 28      | OUT30            |        |                                   |
| 29      | N.C              | -      | Not connected                     |
| 30      | GND              | Ground | GND pin                           |
| 31      | GND              | Ground | GND pin                           |
| 32      | GND              | Ground | GND pin                           |
| 33      | N.C              | -      | Not connected                     |
| 34      | V <sub>DDH</sub> | Supply | High-voltage circuit supply pin   |
| 35      | V <sub>DDH</sub> | Supply | High-voltage circuit supply pin   |
| 36      | OUT31            | Output | High-voltage push-pull output pin |
| 37      | OUT32            |        |                                   |
| 38      | OUT33            |        |                                   |
| 39      | OUT34            |        |                                   |
| 40      | OUT35            |        |                                   |
| 41      | V <sub>DDH</sub> | Supply | High-voltage circuit supply pin   |
| 42      | V <sub>DDH</sub> | Supply | High-voltage circuit supply pin   |
| 43      | N.C              | -      | Not connected                     |
| 44      | GND              | Ground | GND pin                           |
| 45      | GND              | Ground | GND pin                           |
| 46      | GND              | Ground | GND pin                           |
| 47      | N.C              | -      | Not connected                     |
| 48      | OUT36            | Output | High-voltage push-pull output pin |
| 49      | OUT37            |        |                                   |
| 50      | OUT38            |        |                                   |

**AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006)**  
**(50 SCAN B ASSY : IC3201 - IC3206)**

**Plasma Display Panel IC**

● Pin Function (2/3)

| Pin No. | Pin Name         | Type         | Discription                                                                                                |  |  |
|---------|------------------|--------------|------------------------------------------------------------------------------------------------------------|--|--|
| 51      | OUT39            | Output       | High-voltage push-pull output pin                                                                          |  |  |
| 52      | OUT40            |              |                                                                                                            |  |  |
| 53      | OUT41            |              |                                                                                                            |  |  |
| 54      | OUT42            |              |                                                                                                            |  |  |
| 55      | OUT43            |              |                                                                                                            |  |  |
| 56      | OUT44            |              |                                                                                                            |  |  |
| 57      | OUT45            |              |                                                                                                            |  |  |
| 58      | OUT46            |              |                                                                                                            |  |  |
| 59      | OUT47            |              |                                                                                                            |  |  |
| 60      | OUT48            |              |                                                                                                            |  |  |
| 61      | OUT49            |              |                                                                                                            |  |  |
| 62      | OUT50            |              |                                                                                                            |  |  |
| 63      | OUT51            |              |                                                                                                            |  |  |
| 64      | OUT52            |              |                                                                                                            |  |  |
| 65      | OUT53            |              |                                                                                                            |  |  |
| 66      | OUT54            |              |                                                                                                            |  |  |
| 67      | OUT55            |              |                                                                                                            |  |  |
| 68      | OUT56            |              |                                                                                                            |  |  |
| 69      | OUT57            |              |                                                                                                            |  |  |
| 70      | OUT58            |              |                                                                                                            |  |  |
| 71      | OUT59            |              |                                                                                                            |  |  |
| 72      | OUT60            |              |                                                                                                            |  |  |
| 73      | OUT61            |              |                                                                                                            |  |  |
| 74      | OUT62            |              |                                                                                                            |  |  |
| 75      | OUT63            |              |                                                                                                            |  |  |
| 76      | OUT64            |              |                                                                                                            |  |  |
| 77      | N.C              | -            | Not connected                                                                                              |  |  |
| 78      | V <sub>DDH</sub> | Supply       | High-voltage circuit supply pin                                                                            |  |  |
| 79      | V <sub>DDH</sub> | Supply       | High-voltage circuit supply pin                                                                            |  |  |
| 80      | N.C              | -            | Not connected                                                                                              |  |  |
| 81      | GND              | Ground       | GND pin                                                                                                    |  |  |
| 82      | GND              | Ground       | GND pin                                                                                                    |  |  |
| 83      | GND              | Ground       | GND pin                                                                                                    |  |  |
| 84      | DIR              | Input        | Setup pin of sift register sift direction<br>L: Shift into reverse (SO → SI)<br>H: Shift forward (SI → SO) |  |  |
| 85      | SO               | Input/Output | Serial data input/output pin                                                                               |  |  |
| 86      | CLK              | Input        | Serial clock input pin<br>Fetch SI or SO data to sift register<br>by CLK rise edge                         |  |  |
| 87      | LAT              | Input        | LAT data input pin<br>L: Transfer shft register data to output latch<br>H: Hold data to output latch       |  |  |
| 88      | VDD              | Supply       | Logic supply pin                                                                                           |  |  |
| 89      | OC1              | Input        | Output control pin<br>Control output according to the right<br>truth value table                           |  |  |
| 90      | OC2              |              |                                                                                                            |  |  |
|         |                  |              |                                                                                                            |  |  |
|         |                  |              |                                                                                                            |  |  |

| OC1 | OC2 | OUT     |
|-----|-----|---------|
| L   | L   | ALL HiZ |
| L   | H   | DATA    |
| H   | L   | ALL L   |
| H   | H   | ALL H   |

**■ AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006)  
(50 SCAN B ASSY : IC3201 - IC3206)**

**Plasma Display Panel IC**

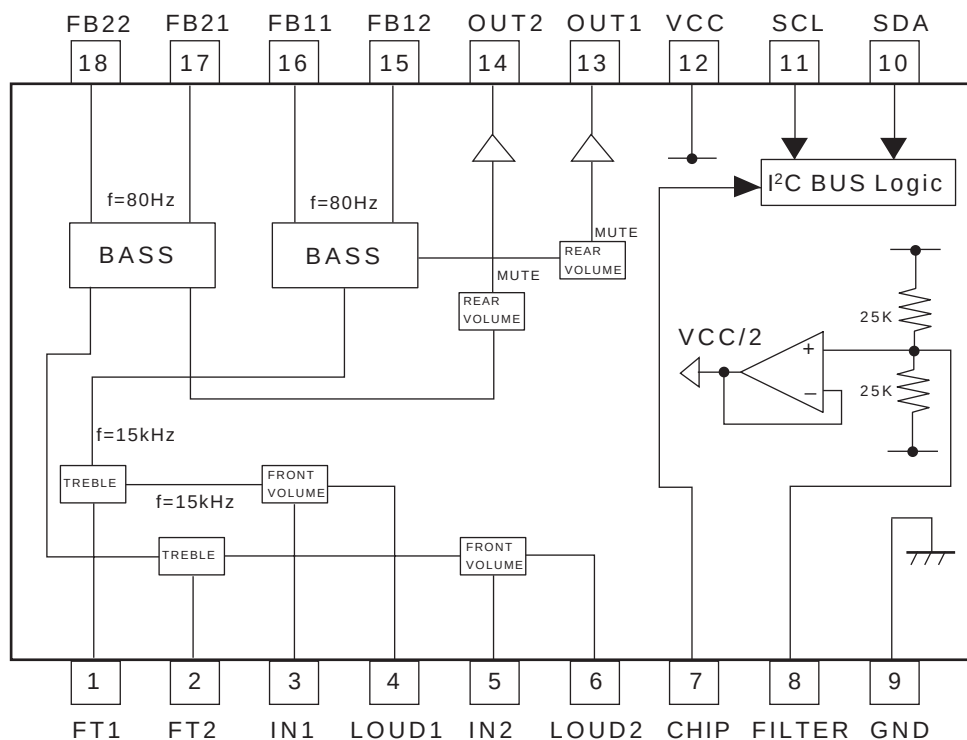
● Pin Function (3/3)

| Pin No. | Pin Name         | Type         | Discription                                                                           |
|---------|------------------|--------------|---------------------------------------------------------------------------------------|
| 91      | SI               | Input/Output | Serial data input/output pin                                                          |
| 92      | CLK              | Input        | All output reset pin<br>CLK pin: L → Normal operation<br>CLK pin: H → All output High |
| 93      | GND              | Ground       | GND pin                                                                               |
| 94      | GND              | Ground       | GND pin                                                                               |
| 95      | GND              | Ground       | GND pin                                                                               |
| 96      | N.C              | -            | Not connected                                                                         |
| 97      | V <sub>DDH</sub> | Supply       | High-voltage circuit supply pin                                                       |
| 98      | V <sub>DDH</sub> | Supply       | High-voltage circuit supply pin                                                       |
| 99      | OUT1             | Output       | High-voltage push-pull output pin                                                     |
| 100     | OUT2             | Output       | High-voltage push-pull output pin                                                     |

## BD3869AS (HD AUDIO ASSY : IC3502)

• Audio sound controller

### ● Block Diagram



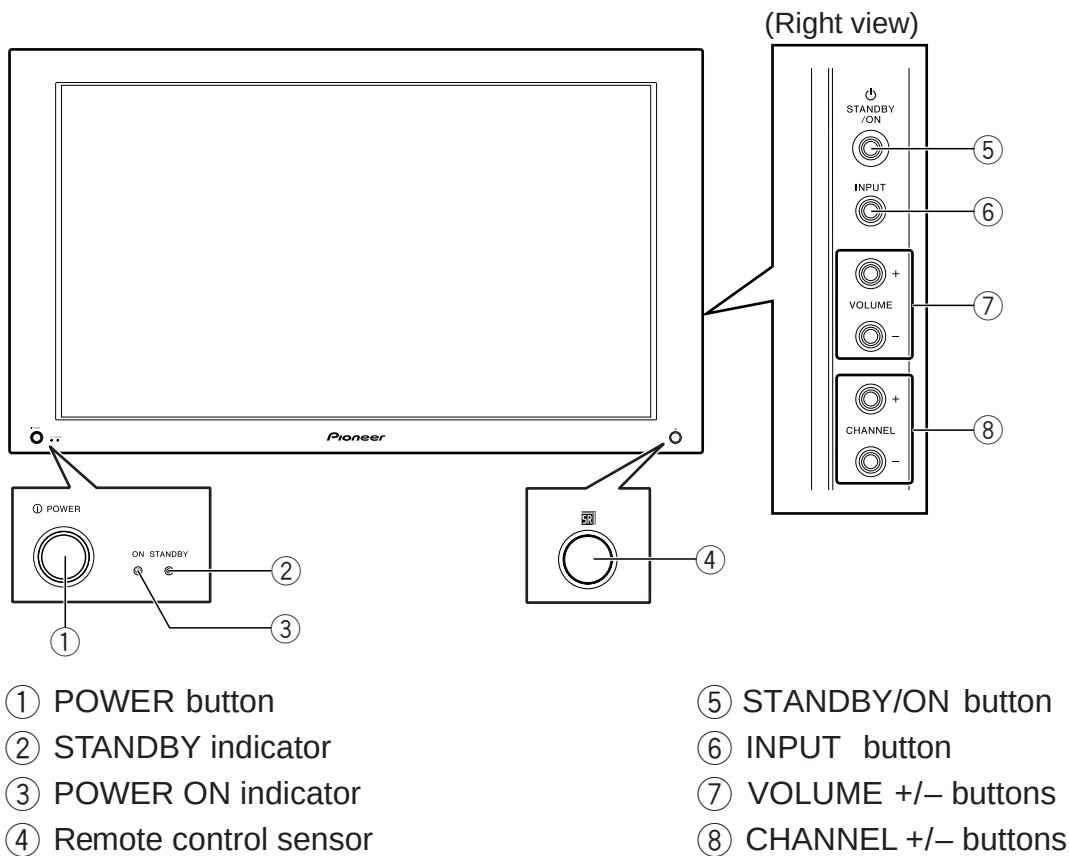
### ● Pin Function

| No. | Pin Name | Function                                | Pin Description                                                                                            |
|-----|----------|-----------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1   | FT1      | CH1 Treble Filter Setting Pin           | A pin for setting Treble frequency characteristic                                                          |
| 2   | FT2      | CH2 Treble Filter Setting Pin           |                                                                                                            |
| 3   | IN1      | CH1 Input Pin                           | A pin for Inputting sound signal to main volume                                                            |
| 4   | LOUD1    | CH1 Loudness Filter Setting Pin         | A pin for setting the loudness frequency characteristics and gain                                          |
| 5   | IN2      | CH2 Input Pin                           | A pin for Inputting sound signal to main volume                                                            |
| 6   | LOUD2    | CH2 Loudness Filter Setting Pin         | A pin for setting the loudness frequency characteristics and gain                                          |
| 7   | CHIP     | Chip Select Pin                         | Terminal of Slave address select of I <sup>2</sup> C Bus                                                   |
| 8   | FILTER   | 1/2 VCC Pin                             | 1/2 VCC. Voltage for power supply of signal system                                                         |
| 9   | GND      | Ground pin                              | A ground pin                                                                                               |
| 10  | SDA      | I <sup>2</sup> C Communication Data Pin | Terminal of SDA of I <sup>2</sup> C bus. ACKNOWLEDGE signal is outputted. Data terminal                    |
| 11  | SCL      | I <sup>2</sup> C Communication Data Pin | Terminal of SCL of I <sup>2</sup> C bus. Clock terminal                                                    |
| 12  | VCC      | Power Supply Pin                        | Power Supply Pin                                                                                           |
| 13  | OUT1     | CH1 Output Pin                          | A pin for outputting a sound signal. Connect this pin to a rear stage circuit through a coupling capacitor |
| 14  | OUT2     | CH2 Output Pin                          |                                                                                                            |
| 15  | FB12     | CH1 Bass Filter Setting Pin             | A pin for setting Bass frequency characteristic and gain                                                   |
| 16  | FB11     | CH1 Bass Filter Setting Pin             |                                                                                                            |
| 17  | FB21     | CH2 Bass Filter Setting Pin             |                                                                                                            |
| 18  | FB22     | CH2 Bass Filter Setting Pin             |                                                                                                            |

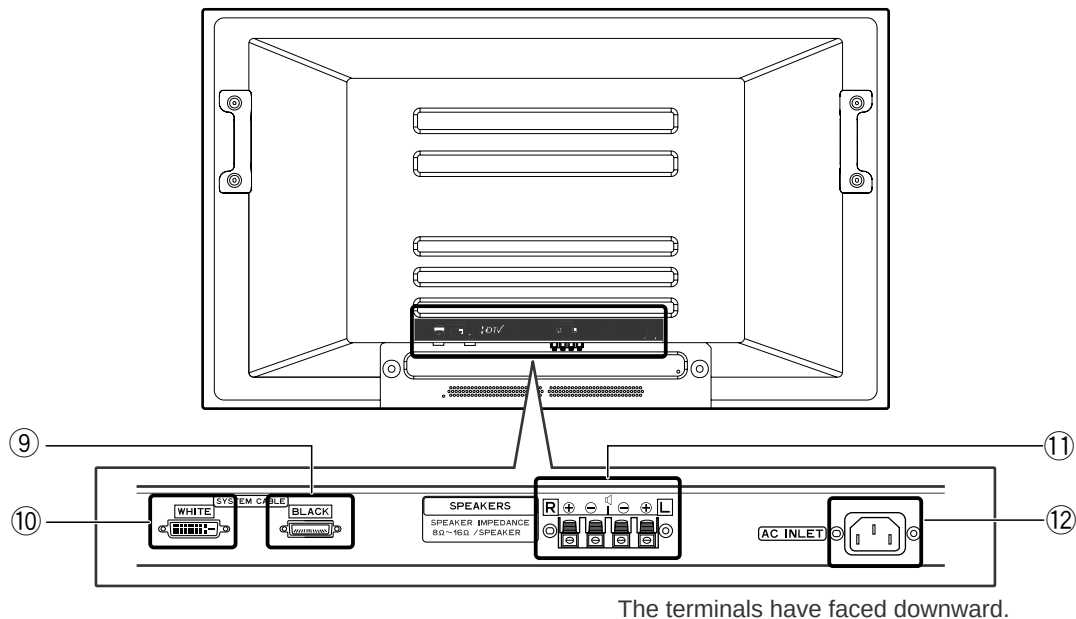
## 8. PANEL FACILITIES AND SPECIFICATIONS

### ■ PLASMA DISPLAY (PDP-504PU, PDP-504PE)

#### • Front view

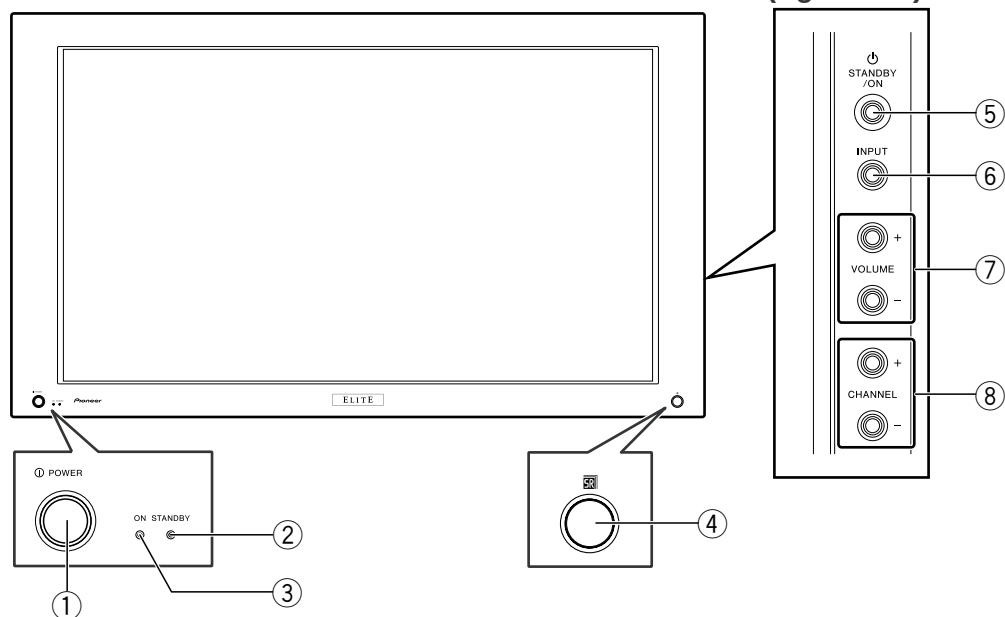


#### • Rear view



## ■ PLASMA DISPLAY (PRO-504PU)

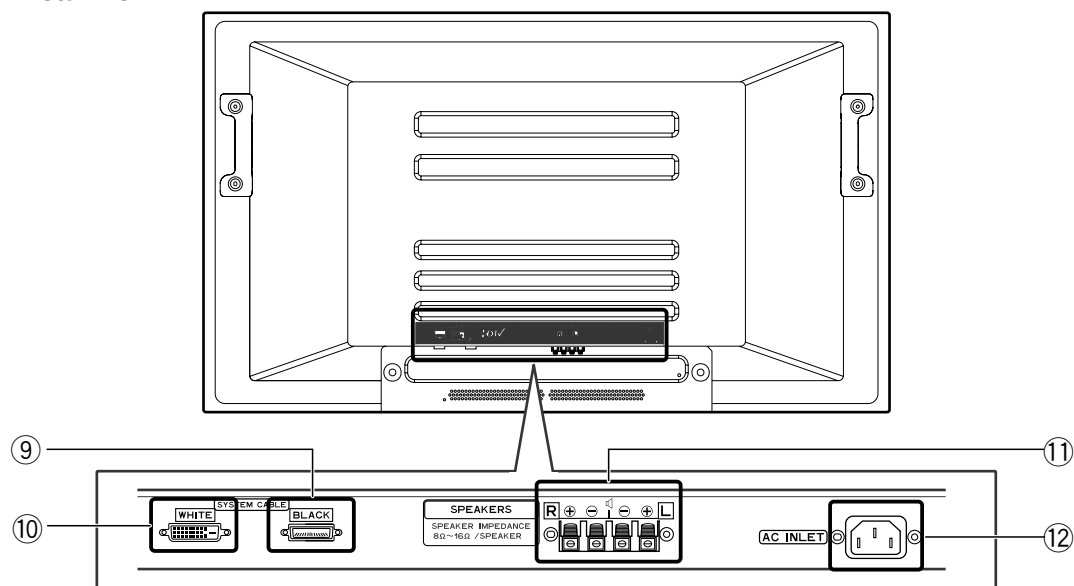
### • Front view



- ① POWER button
- ② STANDBY indicator
- ③ POWER ON indicator
- ④ Remote control sensor

- ⑤ STANDBY/ON button
- ⑥ INPUT button
- ⑦ VOLUME +/- buttons
- ⑧ CHANNEL +/- buttons

### • Rear view



The terminals have faced downward.

- ⑨ SYSTEM CABLE terminal (BLACK)
- ⑩ SYSTEM CABLE terminal (WHITE)

- ⑪ SPEAKER (right/left) terminals
- ⑫ AC INLET terminal